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# THE CANADIAN PRACTITIONER

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## Original Communications.

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### THE SURGICAL TREATMENT OF GALLSTONES.

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A FURTHER CONTRIBUTION TO THE SURGERY OF THE GALL DUCTS AND  
GALL BLADDER.

---

By J. F. W. ROSS, M.D. Tor.,

Professor of Gynæcology and Abdominal Surgery, Woman's Medical College; Surgeon to  
St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

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IN THE CANADIAN PRACTITIONER for April, 1894, I recorded several cases of removal of gallstones. In various discussions I have expressed opinions that, in the light of riper experience, may be to some extent modified. The surgery of the gall bladder itself is fairly well established, but the surgery of the ducts is still in process of evolution. In a few years' time we will have the surgery of the gall ducts placed on a sound basis; we will have eliminated errors and have accepted truths. The following are cases operated on since the publication of the former article.



Miss E. Operated on on the 22nd of March, 1894, for the removal of gallstones. (See plate, Fig. A.) The case was previously reported, and, at that time, it was stated that a fistulous opening still remained. The bile flowed when the patient was in the recumbent posture, and ceased flowing when she assumed the erect posture. Bile passed into the bowels, showing that the common duct was pervious. I decided that it was possible to close the fistula without establishing any anastomosis with the bowel. I considered that the intermittence in the flow was due to the fact that when in the erect posture the gall bladder drew down the common duct and influenced its valvular folds in such a way as to permit the onward flow of the bile into the duodenum. Without such evidence as this of the intermittence of the flow, it would have been dangerous to close the external fistulous opening.

On the 14th of January, 1895, ten months after the original operation, assisted by Dr. A. H. Wright, I opened the abdomen to the inner side of the old scar. The bowels were found firmly adherent around the adhesions of the gall bladder to the skin; they were peeled off until the gall bladder itself was freed. The gall bladder was firmly adherent to the edge of the liver. The opening into the gall bladder was enlarged, and the finger introduced to ascertain its condition and determine the presence or absence of another stone. There was no stone present. The opening into the gall bladder was now closed by two rows of suture of fine black silk thread; the continuous suture was used, and the two ends with which it was begun and ended were drawn through the external wound to assist in its subsequent removal. There was no further leakage of bile. Patient made an excellent recovery, and is now in perfect health.

This case demonstrates the fact that a leakage of bile may take place after cholecystotomy, when there is no obstruction in the common duct, and that such leakage may be terminated without resorting to the operation of cholecystenterostomy.

Mrs. C., æt. 29, referred by Dr. Hillary, of Aurora, married two years, one child seven months old. When six months' pregnant had a very severe attack of pain at the pit of the stomach; this lasted from two to three hours. Was not jaundiced. After the birth of her child she suffered from another attack; then several attacks followed, each lasting from two to three hours. Was jaundiced on two or three occasions; with the jaundice the discharge from the bowels was light clay-colored and pasty, urine dark colored. Diagnosis of gallstones was made and operation advised. No mass could be felt.

Incision made in the usual inclined position on the right side, gall bladder drawn up into the incision, and, by pinching it together, several small gallstones could be felt. These were very small (see plate, Fig. B),

not larger than the ordinary quarter-grain morphine pills ; they were eight in number, and were removed. Gall bladder was short, barely reaching the incision. A drainage tube was inserted into its cavity. Patient made an excellent recovery, and, in a letter dated Dec. 9th, 1895, the husband says : " My wife is in fine health, and I am ever grateful to you."

Mrs. P., æt. 48, referred by Dr. Stuart, Newmarket, married twenty-four years, has three children. Complains of pain in the right side, often suffers from severe pain ; suffered from the last attack three months ago, was at that time very tender to touch over the abdomen. The pains come on suddenly and without warning. Never jaundiced.

On examination a lump to be felt below the edge of the liver. As the kidney could be felt on the same side, I decided that this was a distended gall bladder. Advised operation.

Operation on Oct. 30th, 1895, at St. John's Hospital, assisted by Dr. Davidson. Made an incision along the edge of the costal cartilage on the right side in the usual position. Found the gall bladder adherent to the liver, and enlarged and thickened. Removed thirty-five stones from the gall bladder and one stone from the cystic duct (see plate, Fig. C). The stone impacted in the cystic duct was firmly fixed, and, owing to the length of the gall bladder, it was very difficult to remove it. By steadying the duct with the stone in it with the fingers of the left hand, and by the use of the scoop, passed into the gall bladder, it was finally dislodged. It showed evidence of having been in this position for some time, as it was eroded on its surface. Gall bladder drained. Gall bladder was full of pus. Patient made an uninterrupted recovery, and returned home in good health.

Mrs. S., æt. 60. Mother of three children, last one born twenty-five years ago. Four years ago had an attack of severe pain and vomiting, followed by jaundice. The jaundice continued for two weeks. Eleven months ago she suffered again from severe pain and sickness of the stomach ; chills and fever came on. Pains of a spasmodic nature recurred once a week ; stools became pasty and clay-colored at times. Has now suffered from continuous jaundice for two months with high-colored urine and clay-colored motions ; has lost weight, suffered from bleeding at the nose, and suffers intensely from irritation of the skin. An indefinite mass to be felt under the edge of the liver. Diagnosed distended gall bladder ; obstruction of the common bile duct by stone. Advised operation. I decided, owing to the condition of the patient, to drain the gall bladder and relieve the jaundice at the first operation, and, on a subsequent occasion, to return and remove the obstruction. The patient's health was such that no prolonged operation could be thought of, and, owing to the intense and long-continued jaundice, hæmorrhage would necessarily be an element of danger.

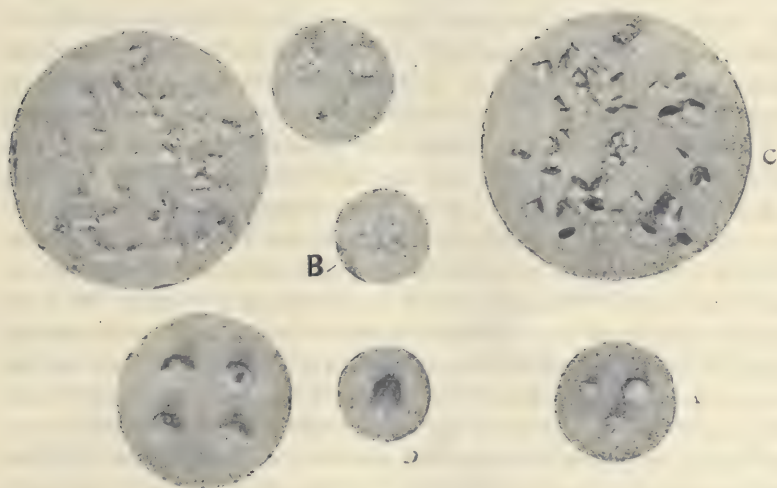


On November 6, 1895, at the Toronto General Hospital Pavilion, assisted by Dr. Temple, I performed cholecystotomy, and removed one large gallstone (see plate, Fig. D) from the mouth of the cystic duct. The bleeding was troublesome, and the operation performed with as much despatch as possible. The patient recovered, jaundice disappeared, and her health became greatly improved. Bleeding at the nose and irritation of the skin ceased, but the stools remained clay-colored.

On the 14th of December, 1895, or six weeks after, I made another incision just below the scar of the first one, and opened the abdomen. The omentum was found firmly adherent to the surface of the liver; this was peeled off, and the liver surface bled freely. The duodenum was found adherent to the under surface of the liver, and, after a good deal of difficulty, was separated. Stomach and duodenum were now drawn out on to the abdomen, and a stone was found impacted in the common duct, and the common duct was found lodged in a bed of adhesions. These were separated to a sufficient extent to permit the fingers of the left hand to raise it. A small bladed knife was then inserted after the passage of a purse-string suture around the portion of the duct it was intended to open. The opening was enlarged by stretching with a pair of forceps. A small scoop was then inserted and the stone removed. The stone was broken down and removed in pieces, so as to avoid the necessity of a larger incision. The purse-string suture was now tied, the orifice closed, superficial sutures placed to further insure the complete closure of the opening in the duct. The stomach and omentum were replaced in the abdomen and the wound closed. A drainage tube was placed in the undisturbed and adherent gall bladder to allow of the ready outward flow of bile and minimize the danger of extravasation of this fluid into the peritoneal cavity. The operation was an extremely difficult one, as it was necessary to work so far up under the liver. Operation consumed one hour and fifty-five minutes.

As the bile did not flow freely from the tube after the first twenty-four hours, the tube was removed for fear that it might be blocked; it was found open from end to end. For the first few days the bile alternated in its flow, at times escaping through the opening of the gall bladder, and at other times apparently flowing on through the now pervious common duct into the duodenum. The first motion from the bowels still remained clay-colored. They then became streaked with bile, and the bile then passed through without any obstruction. Patient made a excellent recovery.

There are several questions that arise in the mind of an operator. First, in the presence of profound jaundice, should we proceed to perform what is a difficult and prolonged operation—the removal of a stone



Some gallstones removed by operation, showing different sizes, numbers, and characteristics.



from the common duct? Or, should the operator leave the stone and perform the operation of cholecystenterostomy? Or, should he at first drain the gall bladder and relieve the jaundice, and subsequently either remove the stone or establish an anastomosis?

The condition of the patient when jaundiced is not a favorable one for the performance of an operation in which we depend on strong peritoneal adhesion of two aseptic surfaces. These surfaces should be in the best possible condition, if we desire to insure the success of our operation. It seems to me that it is easy to perform a cholecystenterostomy after cholecystotomy has been performed. In my case, I could much more easily have performed this operation than have done what I did—remove the stone from the common duct. The gall bladder is already fixed to the abdominal wall, its adhesions are left undisturbed, the duodenum is in close proximity to it, and in a few minutes the surface can be approximated by means of a Murphy button.

Another advantage is this, that if the button remains in the gall bladder, as it has done on at least one occasion, it can be readily removed through the fistulous opening previously established into the gall bladder. I believe there are a few cases, in which firm adhesions have been formed, in which it will be wiser to establish an anastomosis than to attempt to remove the stone. These stones are only increased in size by the fresh deposits made upon them by the bile, and if the flow of bile is carried on through another channel, the stones, instead of increasing in size, are liable to disintegrate and diminish. Gallstones that have been lodged for a long time in the common duct are usually soft and pasty. There have been instances in which obstructive jaundice has existed, and after an exploratory incision and considerable fingerings about the ducts the jaundice has disappeared. To my mind, this disappearance of the jaundice has been due to the unwitting disturbance of a small undetected stone lodged in the common duct. It is sometimes difficult for a skilled finger to detect the presence of a gallstone in the common duct. Unless the stomach and duodenum are drawn well down, it requires a finger longer than that possessed by most surgeons to palpate the common duct through the incision made an inch below the edge of the costal cartilage on the right side.

In the last case I record I found it necessary to draw a portion of the stomach and colon, as they were intimately adherent to one another, through the opening on to the abdomen, and to protect them by warm clothes, in order to bring the impacted stone into the field of the operation.

Secondly, is a purse string suture, carefully applied, just as we apply the purse string suture before making the incision for the introduction of

the Murphy button, a wise procedure when we intend to incise the common duct? I think it is. It assists us in controlling and drawing forward the duct. Fine but strong thread should be used, and the knot cut short. A row of three Halsted sutures should then be applied to draw the serous covering together over the incision. The incision should be very small, and the stone removed piecemeal; a large stone can be removed through a small incision.

Thirdly, is the danger from hæmorrhage in operations performed upon jaundiced patients a great one? In my experience it is. I found it necessary in one case to reopen the wound and swing each end of the severed rectus muscle in a loop of silkworm gut in order to control the hæmorrhage. The blood oozed from hundreds of points, and could not be controlled in any other way. The patient bled from the nose and gall bladder. The objection to secondary operations is the presence of adhesions left from the first procedure. . . . The annoyance occasioned to the operator at the second operation by these adhesions must be compared to the increased danger from hæmorrhage in the presence of jaundice. As soon as the jaundice has disappeared this danger from hæmorrhage ceases. The adhesions, though troublesome, are not dangerous.

Fourthly, if we cannot close the opening made in a friable common duct, how ought we to proceed? From my own experience, I have found drainage from the front an insufficient protection. Bile will be extravasated, and is likely to produce peritonitis. Drainage should be through the loin, if we intend to empty the post-hepatic pouch.

We have in the abdomen, as every operator who has removed a large collection of ascitic fluid from a very much distended abdomen knows, a pouch behind the liver, and another behind the spleen. I have found it necessary on more than one occasion to pass a sponge above a ridge formed by the peritoneum as it joins the transverse colon, to sponge out a considerable quantity of fluid lodged in this pouch. This fluid finds its readiest exit in a direction backwards and outwards towards the right side. A drainage tube passed in this direction will minimize the danger of extravasation of bile from an unclosed common duct.



## Selected Articles.

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### NEUROTIC VOMITING.

---

BY ROBERT T. EDES, M.D.,  
BOSTON, MASS.

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VOMITING is not a disease or even a symptom of disease of the stomach, nor any proof of the abnormality of its contents. It is a special and complicated reflex, involving the abdominal muscles, the diaphragm, as well as the muscular coat of the stomach, especially its cardiac orifice, with often vasomotor and sensory irradiations having but little to do with the primary object of the act, which is, of course, to empty the organ usually, but not always, at the bottom of the whole disturbance.

It is true that the sensory irritation which sets in motion these varied actions usually comes from the stomach, and that its occurrence must always arouse, as the first thought in diagnosis, a suspicion of something wrong with the viscus or its contents. It is well known, however, that in a considerable minority of cases the act may be provoked by a sensory irritation starting from any one of many points other than the gastric mucous membrane, or sometimes even originating, so far as we can see, in the vomiting-centre of the medulla oblongata itself.

The vomiting of Bright's disease is, perhaps, not the best proof of the correctness of this remark, for it is possible that a portion of the hypothetical poison may be secreted by the walls of the stomach, as has been found to be the case with some metallic irritants, for instance, tartar emetic; so that the act, which is apparently central vomiting, may really be taking its origin in the more common way.

It is, on the other hand, not only possible, but highly probable, that the poison of the uræmia, whatever it may be, exerts its action directly upon the centre itself, as occurs with some other emetics, notably apomorphia.

Instances of this kind of vomiting, or in most persons a condition not going beyond the abortive sensory stage—*i.e.*, nausea—are to be found in

the effects of disgusting sights, sounds and smells. It is probable that in seasickness we have a reflex originating in the semicircular canals of the inner ear, disturbed in their function as organs of equilibrium.

I do not know whether to place here or among the instances of purely cerebral vomiting the case of a former colleague, who used to tell me that he could not read more than ten examination books at a time without making him sick at his stomach.

Slight mechanical irritation of the fauces will often greatly assist or occasionally entirely replace, as an initiatory stimulus to vomiting, the irritation of the stomach. That this is something different from ordinary painful irritation of the same region is shown by the fact that it may be inhibited by bromide of potassium without abolishing the susceptibility to the latter.

One of the most common, most important, and best recognized of the forms of vomiting not immediately attributable to a disorder of the digestive tract is the vomiting of pregnancy, and that occurring at times in connection with other affections of the uterus. It is generally recognized by obstetricians that treatment directed to the uterus and nervous system is more likely to be successful than that based upon the condition of the organ apparently chiefly at fault.

Considering, on the one hand, the ease and frequency with which the single, or occasionally repeated, act of vomiting may take place, and how often its effect is a conservative or beneficial one, it is not strange that it should excite no alarm, but often be looked upon as desirable. It is, however, more to be wondered at that long-continued, obstinate, nervous, or functional vomiting should have received so little attention from systematic writers. In most works on general medicine but little is to be found beyond the mere statement that such a state of things may occur, with, perhaps, a more detailed description of "anorexia nervosa," which, however, is not exactly the same thing, and may be accompanied by little or no vomiting. One hardly finds a hint of its sometimes severe and even fatal results. The obstetricians are, however, better aware that the condition is not of so slight importance.

Ewald, indeed, reports one fatal case, in which, however, he surmises that a tumor may have been present in the medulla, causing, together with the vomiting, an abnormal frequency of the pulse, and the epileptiform convulsions which occurred shortly before death. Beyond this he does not speak as if the prognosis usually *quoad vitam* were really serious, and says that "the general nutrition suffers surprisingly little." This optimistic view is, in by far the larger number of cases, the correct one, but not always so.

Lowenfeld says that "the severest conditions of inanition develop

themselves." This severe form of hysterical vomiting is most frequently met with in pregnancy, and has in single cases led to fatal results. Fortunately, it is generally possible, when the condition of the patient threatens to take a bad turn, to put an end to the vomiting in some way or other." He adds, in a footnote: "Guyot reports a case of hysterical vomiting in a non-pregnant patient lasting eighty-two days, and terminating fatally."

Two erroneous impressions, not, perhaps, distinctly formulated, but tacitly received, lie at the bottom of this neglect. One is that, when persistent, vomiting must be dependent upon organic disease, chronic gastritis, ulcer, or carcinoma; the other, that if the absence of chronic disease can be clearly established the case has entirely lost the gravity of its aspect, and the prognosis has become that of other functional disturbances, which, however annoying, do not seriously threaten life.

But neurotic vomiting does not stand, as regards its influence upon the economy, upon the same level as many other neurotic phenomena of similar origin and apparently greater severity. Coma, paralysis, and convulsions make a profound impression upon the lay bystander, but excite comparatively little alarm in the physician who is confident of his diagnosis of the absence of all organic disease. These may rapidly and completely disappear, leaving no permanent ill effects, and without having seriously threatened life. But it is otherwise when a process, in itself just as causeless, so to speak, just as capricious, and, in its earliest effects, as harmless as those which give rise to these more startling symptoms, affects the central organ of nutrition. A commander may look with comparative equanimity upon a raid or skirmish in his front, no matter how vigorous or noisy, when he would feel a well-founded anxiety were it directed upon his line of supplies. If the stomach empties itself thoroughly and inevitably whenever food is put into it, the system is deprived of its support just as surely as when a perfectly healthy organ is being acted on by hypersensitive nerve-centres, when a mucous membrane, rendered over-sensitive by inflammation or a malignant growth, is the starting point of a reflex which in itself is strictly normal and physiological. If the blood fails to receive its peptones, sugar, and fat, it must be just as surely impoverished, whether its loss be on account of the digestive glands having lost their power, or because they have been deprived of material to work upon by a capricious nervous system.

Fortunately in the great majority of cases it is true that the rejection of food is not constant and complete, and enough is retained not only to sustain life, but to justify the remark of Ewald just quoted. If, however, this lucky failure does not take place, then the result is inevitable, and calling a patient hysterical does not enable her to live without food.



There are cases in which no diagnosis of organic disease can be sustained, and in which, moreover, many positive signs of functional disturbance are present, which not only place the patient in a condition of extreme inanition, but may lead to a fatal result.

CASE 1. Mrs. C., aged forty-one years, was seen twice in consultation with Dr. Bragdon, of Dorchester. She had had, for more than a year, persistent vomiting with what she called "fermentation"—that is, vomiting of acid material. There had been, during this time, one or two intermissions. On one occasion some blood of unknown origin had been brought up. The vomiting took place without reference to the time of eating. All sorts of diet had been tried. There were absolutely no cerebral symptoms, and there was no reason to suspect the kidneys. At the second visit the stomach was washed out with a flexible tube, with no result except the return of the water poured down and a little matter tinged with bile.

She emaciated and died.

At the autopsy the lungs were found to contain small, cheesy deposits. The heart was small, but otherwise normal. The stomach showed nothing abnormal; the pylorus was unobstructed. The kidneys and other organs were normal.

CASE 2. Miss C., always delicate, and subject to sick headaches. Five years ago a pain began in the right side. Two and a half years ago her health began to break down entirely, with insomnia, headache, and "stomach trouble." Soon after this an enlargement of a Fallopian tube was diagnosticated, and removal of one ovary suggested, but not carried out. Some of the symptoms yielded to treatment, but the pain continued higher up, supposed to be due to old peritonitic adhesions. There were spells of "stomach trouble," in which she was unable to digest or retain anything for five days at a time. In January, 1889, her diary informs us that she was suffering from insomnia, headache, "stomach trouble," and on January 22 speaks of a "sharp, cutting pain in the extreme left side of the stomach" as a "new symptom." During this period she was going to parties and receiving calls in the intervals of distress.

In February "lost ground." She felt that she was not going to get well.

In March a diagnosis of cancer of the stomach and then of gastritis was made. There was obstinate vomiting. She took no food or drink, except from time to time to "rinse out her stomach" by swallowing a glass of water, and then, without an effort, throwing it up again at once.

During this period she once took a little broth and a minute piece of fish, which were thrown up again undigested thirty-six hours afterward.

There were some thirty days preceding her death in which, with the slight exception just noted, no food was taken, except by enema, although she was vomiting in small quantity.

Her mind, during her whole sickness, was perfectly clear until two days before death, when she fell into a mild delirium. I saw her two or three times with Dr. D. W. Prentiss, of Washington. She was then in a state of great emaciation, her condition remaining about as above described. There was never any vomiting of blood. The bowels were regular. The urine contained no albumin, but was highly concentrated, containing, a few days before death, 32 grammes of urea to the litre ; but as the quantity per diem was not known, the total daily elimination cannot be given. It was presumably very small.

At the autopsy the body was found much emaciated, but with some fat still remaining in the omentum. The heart and lungs were normal, but contained very little blood.

The stomach contained no tumor and no ulceration. There were some congestion of the vessels and some ecchymosis, undoubtedly originating about the time of death. It was nearly empty, with no large amount of mucus, presenting no extraordinary appearance to the naked eye, the mucus seeming to be intact. This was confirmed so far as naked-eye examination of small pieces removed and hardened went, but the microscopic preparation was delayed a long time, and was finally a failure.

The intestines had faecal contents. In the lower part of the large intestine were white masses, undoubtedly derived from enemata of milk. The liver was normal ; the gall-bladder full of dark, thick bile. Pancreas normal. Spleen not enlarged. The kidneys were congested, but otherwise normal.

The right semilunar ganglion was apparently normal in the midst of undefined connective tissue ; the left not found.

The uterus was anteflexed, the tubes normal, ovaries flabby, with no corpora lutea. There was no trace of previous inflammation of the uterus, its appendages, or of the peritoneum.

The nomenclature of such cases as these is not altogether a matter of indifference, inasmuch as it may have some influence on the mind of even the practitioner, and, if not very carefully contrived, is likely to lead to harmful misunderstandings between him, his patient, and her friends. Until it is possible to relieve the words "hysterical" and "nervous" from a certain flavor of disapprobation and suspicion which still clings to them, or until we ourselves get rid of the habit of prefixing, at least mentally, the word "only" to these names, they should be used very carefully.

"Hysterical," in the oldest sense of being connected with uterine

disturbances, they may or may not be, and those which are so are probably, as being more amenable to local treatment, not the very severest type. Neither of these two cases seems to have possessed the old-fashioned hysterical disposition. The second, though evidently of an affectionate and emotional character, was calm and cheerful in her bearing, and seldom gave way even to tears.

In neither was uterine disease found, and in the second the traces of a tumor suspected, of dilated tubes, and of uterine disease said to have been cured by electricity, were looked for in vain.

On the other hand, there were no manifestations of the "grand hysteria" of the *Salpêtrière*.

But "hysterical" in the sense of purely functional and neurotic they undoubtedly are in the same sense that joints are "hysterical" in many cases where they are non-usable and painful, and limbs paralyzed and contracted, and the skin when it takes on certain vasomotor conditions simulating eruptive diseases, or the subcutaneous connective tissue when the extremities become blue and swollen, and so on.

It is to be regretted, in the interest of completeness, that the special "stigmata" were not sought for; but the diagnosis, though it might have received some confirmation from their presence, does not depend upon them.

If there is any lesion in such cases, it must be in the brain, and of such a character as not to be seen by processes yet discovered.

The practical point in the diagnosis is, whether or not organic disease be present; and this is to be determined chiefly by an exclusion, as far as possible, of inflammation, malignant disease, and especially of ulcer, being confirmed, perhaps, by the presence of other and distinct signs of the neurotic diathesis. It should be remembered, however, that neither ulcer nor cancer is a protection against the neuroses. In one of these cases the attending physician, a practitioner of large experience and sound judgment, who had studied the case thoroughly and exhausted the resources of medicine and careful feeding, firmly believed in the existence of malignant disease until he actually saw the stomach at the autopsy.

It might be suggested, since no examination of the head was made in this second case, that there was a lesion of the medulla oblongata so circumscribed as to give rise to the symptoms of gastric pain and vomiting, and no other. It can only be said of this hypothesis that such a state of things is conceivable in the abstract, but that no such case has been reported, and it is in the highest degree improbable that even one case should go on to a fatal result without a single other manifestation of cerebral disease; and when two such in the observation of one person are called for to sustain this theory, the probability becomes too small to be considered.



The doubts in diagnosis, which fortunately can never be resolved in the present instance, are illustrated by

CASE 3. Seen in consultation with Dr. J. L. Hildreth. This patient was a delicate-looking, light-complexioned girl, with a distinctly neurotic family tendency, who had worked hard and distinguished herself in her own education and had then become a teacher, besides sharing in family anxieties.

Two years before the present illness she had had a distinct attack of melancholia. With this exception she was well until August, 1892, when, being at the time tired and weak, but resting in the country, she began to vomit. She got better and went to work again, but in December was again taken with vomiting, and was obliged to keep in bed. The vomiting was persistent, and for a long time resisted all treatment. She lost flesh and strength, although she had but little pain. There was no hæmatemesis. A temporary improvement took place in January, following upon the administration of small doses of codeine; but the former condition soon returned and was aggravated, so that not the smallest portion of food could be retained. The tongue became red and dry, the pulse small and rapid, the emaciation extreme, and she presented every appearance of rapidly approaching death by inanition, which for some hours her attending physician supposed to be close at hand.

This, however, seemed to be the turning point. She soon took and retained a small amount of champagne, and, later, milk and lime-water, which latter was increased with considerable rapidity, so that when she entered the Adams Nervine Asylum she was fairly convalescent, and went on to complete recovery, gaining flesh rapidly, and having no symptoms of any special interest except to herself. There was no gastralgia, very little that could be called even dyspepsia, and but slight nervous manifestations, except a good deal of exaggeration and tendency to self-inspection. During the whole time there were no specially hysterical manifestations, and her mind was perfectly clear.

The diagnosis of such cases is obviously the important, and, for an efficient treatment, the fundamental one. It is true that the great majority of cases would of themselves come to a satisfactory conclusion after a greater or less time of any treatment, and, of course, under such as would be directed toward organic disease: that is, so far as the dietetic management is concerned; but the time and anxiety consumed would be greater than if a less careful treatment were supplemented by other measures directed to the nervous condition. Hence the diagnosis, even if it cannot be always absolutely certain, should be made as nearly so as possible.

There is no symptom specially characteristic of functional vomiting. The presence of other neurotic symptoms, either together with, or even

more conclusively if ceasing in order to give way to an attack of obstinate vomiting, would not be proof positive, perhaps, but in the highest degree suspicious.

The absence, during considerable time, of vomiting of blood would be a strong point in favor of a neurosis ; but when it is remembered that a moderate hæmorrhage into the stomach may not be thrown up at all, but pass away, possibly unnoticed, by the bowels, we are again left at fault.

On the other hand, repeated vomiting of blood would be more conclusive of organic disease than anything else, except the finding of an epigastric tumor. A single occasion of hæmatemesis, even if copious, is of much less value. Hysterical hæmatemesis is not very rare, and may or may not be a vicarious menstruation. If repeated at regular intervals its purport would at once be evident.

As to the assistance to be gained by an analysis of the stomach contents vomited, or withdrawn by the tube, we find that, unfortunately, the hydrochloric acid is increased in nervous gastralgia as well as in ulcer. Complete absence of free acid has also been seen in cases of nervous dyspepsia, and might obviously lead to the suspicion of cancer. I know of no observation made in a case of exactly the kind described above, that is, where the vomiting is a much more prominent symptom than the pain ; but it is possible that a persistent absence of hyperacidity, together with the painless vomiting, would be a significant combination.

Dr. Routh remarked in one of the discussions on the subject that hot drinks increased the pain of ulcer, but repressed that of neuralgia.

Ewald gives an elaborate table of the distinction between nervous gastralgia, gastric ulcer, and gastric cancer, which I forbear to quote, since its value is so heavily discounted in the immediately following remark : " I hope that this table may be of some service in establishing a differential diagnosis. However, sharp as the distinction between the three pictures may appear on paper, we find often enough in practice that just the most important symptoms are absent, or so combined with one another, or so vaguely manifested, that an exact diagnosis cannot possibly be made."

In the third case here reported the physicians who saw it were agreed that the weight of evidence lay upon the side of nervous vomiting, and this view seems to have been confirmed by the rapidity and completeness with which recovery took place after it had once begun. The essential points were chiefly the absence of vomiting of blood and the occurrence of the whole affair as a consistent part of a distinctly neurotic history. If, however, one should choose to affirm, in a similar but less carefully observed case, that bloody stools had already been present but not seen, and that the neurotic symptoms were the consequence of anæmia rather than *vice versa*, it would be difficult to confute him.

Of diseases other than those of the stomach, which might easily present symptom-groups simulating nervous vomiting, there are two which deserve mention, Bright's and intracranial tumor; but the possibility of either of these being associated with persistent vomiting having been recognized and the case investigated from that point of view, the chance of error would be extremely small.

In a case of hysterical anuria the presence of urea in the vomitus would have a value in the diagnosis if any confirmation were needed. Pelvic complications are to be sought for and remedied. In special and favorable cases this may be the end of the matter, as in the vomiting of pregnancy; but local uterine treatment is no more universally successful in this than in other neuroses; so that its failure would prove nothing as to diagnosis.

Dr. Bristow (*Lancet*, June 20, 1895) makes the highly important observation that in some cases the so-called vomiting is in reality regurgitation, and cites the case of a girl who brought up even the smallest quantity of food. He was satisfied that the food swallowed did not reach the stomach, and was arrested at the lower end of the œsophagus. She was cured by a single passage of the tube.

The treatment of neurotic vomiting presents few points of interest, so far as drugs and diet are concerned, from that employed to check vomiting from other causes. Almost any of the medicines called gastric sedatives or antiemetics may prove useful, but nothing is specific.

In the matter of diet, it is perhaps less easy to find some one article which will always be well borne than when the vomiting depends upon organic disease. It is, however, desirable not to make the search too limited, for the appetite may be capricious, and the choice, will depend more upon it than upon chemical composition. Any physician can tell queer stories of what patients can and cannot eat, or think they cannot. The hospital patient, who has been carefully fed by the rectum, or on pre-digested milk or the like dainties, steals his neighbor's fried ham and eggs and thrives thereon. The consumptive's stomach, which has for days rejected the most ingenious and artistic concoctions, quiets down under the indigenous baked bean, only to be again aroused by a delicate and very expensive bean-flour called "Revalenta Arabica." The next effectual sedative is a piece of good solid pound-cake.

Articles of diet called "bland" are by no means more universally acceptable to the sensitive or disgusted palate than a smile of the same character is to the perturbed spirit.

Variety and "little and often" are two good principles to bear in mind; but there is no rule which will not be found to have important exceptions.



The more food preparations of any kind the physician is familiar with, the better. One may be retained when another is rejected, not because it is better, but because it is new.

The most important part of the treatment is by no means the easiest to formulate ; I mean the moral control and psychical stimulus or sedation.

It must combine firmness with kindness, caution with boldness, and the whole with fertility of resource, common sense, and adaptability to the case in hand.

The act of vomiting is, to a certain very limited extent, directly under the control of the will ; but much more completely is it, together with the whole process of digestion, indirectly subject to nervous influence.

How easy is it to disgust a sensitive person with any article of food by some unpleasant detail as to its source, or the method of its preparation ! It is certainly consonant with the views of hysteria held by some theorists that a fixed idea or some incident forgotten as to the ordinary consciousness, but retained in the "subliminal," may be constantly exciting the centres controlling the action of the stomach. In the second of the cases reported, it is more than probable that the idea of the patient that she was not going to get well had a good deal to do with determining the result.

If a patient believes that she must vomit, she will do so. If, on the other hand, there are no nerve-endings in the gastric mucous membrane irritated by inflammation or neoplasm, no cells in the medulla to be compressed or poisoned, assurances that she need not and must not vomit are of more value than bismuth, creosote, or ice. One gentleman proposes to check hysterical vomiting by the simple plan of bringing no basin.

Here, of course, is where the diagnosis is of supreme importance. The physician cannot give those hearty assurances of recovery with convincing vigor, nor exercise the necessary firmness in urging food, if he has a feeling that the patient may at any moment bring him to shame by a hæmorrhage or a perforation, or her confidence be slowly undermined by the gradual development of a growth in the epigastrium.

He can feed her so as not to do harm in either case, and sometimes it may be that this is for a time all, until the diagnosis is established ; and it is not necessarily any imputation upon the diagnostic skill of the practitioner that he may be obliged thus to temporize. It is not, however, until he can cut loose from the very limited bill of fare, and assure his patient that the lactated milk or the malted glucose, to which her faith is pinned, is not her only hold upon life, and that it is time for her to enlarge her diet, that he is really reaping the benefit of a positive diagnosis.

Measures which appeal to the reason or to the imagination as being appropriate to the relief of stomach trouble may have, from the force of suggestion, an efficacy much beyond their intrinsic value. The experience of Kaltenbach,\* Alt, and others shows that by appropriate suggestive treatment the vomiting in the severest cases of hyperemesis can be checked. Kaltenbach and Alt washed out the stomachs of their patients, and then suggested that, since everything harmful had been removed, the vomiting must necessarily cease. This suggestion proved efficacious, and the patients recovered completely. Whether such suggestive treatment would be easier and more effectual with the patient in a condition of hypnosis I do not undertake to say. My belief would be that if it could be made efficacious at all in a non-hypnotized person the effect would be much more durable.

\* Lowenfeld : *Neurasthenie und Hysterie*, p. 436.

## A STUDY OF THE INFECTIONOUSNESS OF THE DUST IN THE ADIRONDACK COTTAGE SANITARIUM.

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ASSOCIATED with our increasing knowledge of germ life and the practical application of bacteriology toward solving the causes of disease and tracing back to its fountain-head the source of any infection, there exists among the laity, and also some physicians, an intense fear, sometimes amounting to mania, that they are continually exposing themselves to an invisible danger which is lurking about them in the food they eat, the water they drink, and the air they breathe. The most dreaded nightmare of them all is the fear of becoming infected with the germs of tuberculosis. No one can deny the presence of this danger in a great many places; but oftentimes in the places where popular opinion considers it greatest it is actually less to be dreaded than in other localities where, with the external appearances of refinement and cleanliness, there exist the most favorable conditions for the permanent lodgment of infectious material in the dust.

This fear of infection from tubercular germs has become so general and reached such a climax that the poor tubercular patient, whose mental and physical suffering is already extreme, must carry around with him an added burden of anxiety and care, since people look upon him as a dangerous character in the home or community. It is within the writer's experience that parents have refused to have their children return home lest some other member of the family might be infected; and men have found it difficult to hire flats in New York city or Brooklyn when they wished to make a home for a dying wife or child. In one instance a physician wrote to have his former patient kept in Saranac Lake until she died, as he thought that was the only way of avoiding possible infection for the other members of her family; in the end she was taken home to die in a hospital.

Such heartless actions are due, to a great extent, to the ignorance of people concerning the real dangers of infection, and their lack of knowl-



edge as to how they can be avoided. In their blind ignorance they think to avoid an apparent danger, little dreaming how much more frequent and dangerous are the daily exposures to the same diseases in their social intercourse, travels, and amusements.

For these reasons it has seemed a fitting time to make some experiments on this subject to determine how great the danger of infection is in a large community of consumptives, where all sanitary measures are enforced as regards the care and disinfection of sputa.

Two facts have been positively affirmed by previous experiments: (1) Buildings for consumptives, prisons, private dwellings, and public conveyances do become infected with tubercular germs. (2) A tuberculous patient is absolutely free from the danger of infecting others by contact; it is the product of their excretions which is the dangerous factor. Destroy these, and the house or home of the consumptive is no longer dangerous.

All investigators have established the first of these two statements, none more thoroughly than Cornet,\* reference to whose work will be made later in this paper.

The second statement has also been repeatedly proven; but among the laity and also some physicians, it is so dimly comprehended that time will not be lost in quoting some of the investigators and their experiments.

Two Italian investigators, Celli and Guarnieri, found the expired air of tubercular patients free from tubercle bacilli; and also that air blown by a bellows over and through sputum very rich in bacilli remained free from bacilli.

Fr. Muller,† Sormain and Brugnatelli,‡ Charrin and Karth,§ Cadeac and Malet,|| all found the expired air non-infectious.

For two months Tappeiner¶ had a woman with advanced phthisis cough through an opening into a wooden box in which were two guinea-pigs; at the end of that time they were killed and found sound.

Cornet\*\* states that the expired air "never and under no conditions contains tubercle bacilli or their spores."

\* Cornet : Die Verbreitung der Tuberkelbacillen ausserhalb des Körpers. Zeitschrift f. Hygiene, B. 5. 1888.

† Fr. Müller : Ueber die diagnostische Bedeutung der Tuberkelbacillen. Würzburg, 1883. Verhandlungen der med. phys. Gesellschaft zu Würzburg, N.F. Bd. viii.

‡ Sormain and Brugnatelli : Studi sperimentali sub bacillo della tubercolosi. 1883.

§ Charrin and Karth : Virulence de la tuberculose suivant les humeurs et les tissus des tuberculeux. Revue de Méd., 1885, No. 8.

|| Cadeac and Malet : Etude expérimentale de la transmission de la tuberculose par l'air expire et l'atmosphère. Revue de Méd., 1887, No. 7.

¶ Tappeiner : Meran zur Frage der Contagiosität der Tuberkeln. Archiv. für Medicin, Bd. xxix. S. 59.

\*\* Cornet : Loco citato.

Since, then, personal contact with a tubercular patient is free from danger, whence is the source of the infectious material? For all practical purposes it is contained in the sputum, which becomes dangerous and capable of infecting when dried and pulverized. In its moist state it is harmless; therefore, if tubercular patients are careless and dirty about their sputum they are dangerous, not alone to themselves, but to all who come in contact with them.

Knowing these facts, and taking pains to make them clear to the patients in the sanitarium, it may well be said, after five years of personal observation, that the rules concerning the care and disinfection of sputum have been, since its inception, and are to-day, most carefully carried out there. Occasionally, a very sick or careless patient does transgress the rules, but this occurs very seldom for such a large institution.

In order to test the efficacy of the system, a complete examination of the group of buildings was made, some of which have been occupied eleven years by consumptives. In every instance dust from the darkest and most likely to be infected spots was taken; for, if infected, the management was most desirous of knowing it.

The experiments were done at Dr. Trudeau's request and under his supervision at the Saranac Laboratory for the Study of Tuberculosis. They were arranged in two groups, the details of which were as follows: First group of four buildings consisted of the main building (parlor, sitting-room, and public library); the infirmary, where all the acutely sick are sent; the "Red Cottage," which was the oldest on the grounds, and the "Penfold," the most recently built cottage. One square yard of dust from each of these buildings was collected and inoculated into ten guinea pigs. Second group consisted of thirteen cottages, from each of which half a square yard of dust was taken and inoculated into three guinea pigs; thus the second batch of pigs received proportionately a larger quantity of dust than the first.

The technique was as follows: Sterilized cotton swabs moistened with sterilized water were used to collect the dust from the walls, backs of pictures, and darkest corners of the rooms; 1 to 2 c.c. more of sterilized water was added to cleanse the cotton of the dust. The swabs were then squeezed in a piece of coarse, sterilized gauze, and an equal share of the whole dust, suspended in water, inoculated into each guinea pig; all inoculations were made into the abdominal walls, extraperitoneal. Save for any infections in the dust, all other sources of contamination were excluded by thorough antiseptic precautions.

The animals were kept from one to three months and then killed. Any enlarged glands or suspicious areas were carefully examined for tubercle bacilli, and the diagnosis of tuberculosis only made when these were

found. In the painstaking details of these prolonged experiments, the writer wishes to express the appreciation of the assistance given him by Dr. S. W. Hewetson, who aided him materially in the work.

The results are shown in the following table, which is arranged under the same heading as in Cornet's work, in order to compare the results :

| Places.  | Number of Animals. | Of which Died of |                            | Died of Infectious Diseases. |                                      | Remainder Sound. | Am't of Dust Used. |
|--|--------------------|------------------|----------------------------|------------------------------|--------------------------------------|------------------|--------------------|
|  |                    | Tuberculosis.    | Other Infectious Diseases. | All Told.                    | In percentage to Inoculat'd Animals. |                  |                    |
| Sq. yd.  |                    |                  |                            |                              |                                      |                  |                    |
| Main Building: Parlor, Sitting Room and Library..... | 10                 | 0                | 1                          | 1                            | 10                                   | 9                | 1                  |
| Infirmary.....                                       | 10                 | 0                | 3                          | 3                            | 50                                   | 7                | 1                  |
| Red Cottage.....                                     | 10                 | 5                | 0                          | 5                            | 50                                   | 5                | 1                  |
| Penfold.....   | 10                 | 0                | 0                          | 0                            | 0                                    | 10               | 1                  |
| Loomis.....  | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| McAlpin.....   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| First Stokes.....                                    | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Second Stokes.....                                   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Green.....   | 4                  | 0                | 0                          | 0                            | 0                                    | 4                | $\frac{1}{2}$      |
| Lea.....   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Spruce.....  | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Trudeau.....   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Pine.....  | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Sunshine.....  | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Schiff.....  | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Dodge.....   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Strauss.....   | 3                  | 0                | 0                          | 0                            | 0                                    | 3                | $\frac{1}{2}$      |
| Outbuilding.....                                     | 1                  | 0                | 0                          | 0                            | 0                                    | 1                | $\frac{1}{4}$      |
| Thus of.....   | 81                 | 5                | 4                          | * 9                          | 11.11                                | 72               |                    |

In all, 81 pigs were inoculated with from 2 to 3 c.c. of sterilized water with the dust in suspension ; of these only 4, or 4.9 per cent., died of other infectious diseases on the third to sixth day, and 5 of tuberculosis. These five constituted just one-half of the number of pigs inoculated with the dust from the "Red Cottage," a small cottage holding two patients, always occupied by the sickest men, one of whom had been complained of by his room-mate for spitting around the cottage. The five pigs lived sixty days, were then killed, and although tuberculosis was present in the omentum, spleen, liver, and lungs, they were well nourished and strong, apparently showing a diminished virulency of the infecting germs.

The infection of this cottage demonstrates two things : First, how easily a patient by carelessness and disobedience of rules (probably due to his very weak, sickly condition) may render a cottage dangerous to himself as well as to others ; second, that the technique of the experiment was faultless.

It brings out, however, in stronger contrast, the successful results of the experiment as a whole, since sixteen buildings out of seventeen, inhabited by consumptives for so long a period as ten years, were absolutely free from infectious material. This is the more striking when we consider



the great vitality and virulence of the tubercle bacilli, Stone\* having proven by inoculation of rabbits that dried sputum, after the lapse of thirteen years, was capable of inducing tuberculosis.

With this array of negative results, a most conclusive proof is given that a body of consumptives need not infect the houses they occupy when their excretions are destroyed. To attain this end it requires that each new patient should be carefully instructed concerning the disposal of his sputum, and close supervision of them all be maintained.

Then each patient feels that he endangers himself as well as the others by not obeying the rules ; if anyone becomes careless in the matter it is quickly reported to the medical authority by one or more members of the sanitarium, everyone appreciating fully the grave consequences of possibly infecting the cottages or public rooms.

The methods used are to burn all cuspidors daily, and the Japanese napkins as soon after using as possible ; never to expectorate except into the large sanitary cuspidors when about the main buildings, or the small individual hand cuspidors. Paper napkins are used in the infirmary in hæmorrhage cases, or where patients are too feeble to get up on their elbows so as to spit into the cuspidor ; these are used but once, then placed in a pasteboard receptacle, and the whole thing burned several times a day. During the greater portion of the year fires are burning in every cottage, and the patients burn everything in the stove or fireplace.

In summer, a barrel with some moist sawdust in the bottom is placed in an outbuilding, and the cuspidors and napkins are carried to this barrel, which is saturated with kerosene and burned three times a week. One-fourth of a square yard of dust from this building was inoculated into one guinea pig, which remained healthy. A properly constructed crematory is much needed, but too costly at present to build. The cuspidors used are made by Seabury & Johnson, and of two sizes : one, the hand cuspidor, for individual use, and the other, a much larger size, for the piazzas and public rooms. The latter are placed in covered wooden boxes about four feet from the floor ; these are easily taken down and cleansed. By this arrangement patients cannot spit at a cuspidor from a distance, and the mass of sputum is not blown over the edges of the cuspidor by the wind, as happened at first when uncovered cuspidors were placed upon the floors.

It is, perhaps, too much to suppose that all particles of infectious materials are thus destroyed ; where seventy to eighty small hand cuspidors are in daily use, there may be some slight soiling of a stand or the linen covers on which the cuspidors are placed ; also in coughing some small

\* A. K. Stone : *American Journal of the Medical Sciences*, March, 1891.

masses of sputum may be violently expelled. These sources of contamination must be small, and are fraught with less danger by frequently washing the tin frames for the cuspidors, and the cottage plan of housing patients, thereby avoiding the evils of overcrowding.

Besides the destruction of the sputum, other factors equally important have served as auxiliary means of keeping the cottages free from infection, not alone with tubercle bacilli, but also other germs : these are the construction of the cottages, which are built so as to insure thorough ventilation ; the immense volume of air space allotted to each patient : this is secured by large openings from the various bedrooms into the sitting-room, which communicates with the outside air by transoms opening above the piazza roofs ; the smooth, hardwood wainscoating, 7 to 8 feet high, around the whole cottage, permitting of thorough cleansing with soap and water ; the absence of wall-papers, the upper walls and ceilings being heavily sized and then painted, rendering these also easily cleansed ; the plain, simple furnishings—iron hospital beds, rugs, and hardwood floors, and as few tapestries as possible ; lastly, the large area of window surface, allowing the sun's rays and strong light free access to all parts of the cottage. Added clinical proof of the non-infectious character of the dust may be deduced from the fact that not one of the twenty to twenty-five attendants has ever developed tuberculosis ; and also that no patient who was admitted suffering from pulmonary disease without the bacilli being present ever subsequently developed them.

How do these results compare with those of other experimenters ?

Heron\* inoculated one hundred guinea pigs with dust taken from various sources in the City of London Hospital for Diseases of the Chest. In the greater number of experiments "a piece of dust was introduced into the subperitoneal tissue" ; in some a solution of dust in sterilized water was injected into the pigs. Twenty-six pigs, 26 per cent., died of "either intense inflammation spreading from site of inoculation or septicæmia." Of the remaining seventy-four, two pigs (both inoculated with dust in solution), or 2.7 per cent., died of tuberculosis. The dust in each case came from "the tower of the hospital, which acts as up-cast shaft," and was dark and unventilated. It would seem as though the implantation of a piece of dust was too small to place too great reliance on negative results.

Cornet†, seven years ago, gave us the following table :

\* G. A. Heron : The Relation of Dust in Hospitals to Tuberculous Infection. *Lancet*, No. 1,67 January 6, 1894.

† Cornet : loco citato.

| Places.  | Number of Animals inoculated. | Of These Died of |                            | Died of Infectious Diseases |                                      | Remained Sound. |
|--|-------------------------------|------------------|----------------------------|-----------------------------|--------------------------------------|-----------------|
|  |                               | Tuberculosis.    | Other Infectious Diseases. | All Told.                   | In Percentage to Inoculat'd Animals. |                 |
| In seven hospitals .....                       | 94                            | 20               | 52                         | 72                          | 76.6                                 | 22              |
| In three insane asylums .....                  | 33                            | 3                | 16                         | 19                          | 57.5                                 | 14              |
| In two prisons .....                           | 14                            | 0                | 6                          | 6                           | 42                                   | 8               |
| Inhalation rooms .....                         | 4                             | 2                | 0                          | 2                           | 50                                   | 2               |
| Dwellings of private tubercular patients ..... | 170                           | 34               | 91                         | 125                         | 73.5                                 | 25              |
| Polyclinic orphan asylum, etc. ....            | 28                            | 0                | 14                         | 14                          | 50                                   | 14              |
| Surgical wards .....                           | 8                             | 0                | 1                          | 1                           | 12.5                                 | 7               |
| Streets and hygienic institute .....           | 41                            | 0                | 16                         | 16                          | 39                                   | 25              |
| Streets alone .....                            |                               |                  |                            |                             | 55                                   |                 |
| Thus of .....                                  | 392                           | 59               | 196                        | 255                         | 65.5                                 | 137             |

In the hospitals 47.6 per cent. of the pigs not dying of acute infection developed tuberculosis ; in private dwellings, 43.6 per cent. ; in insane asylums, 17.6 per cent.

M. Kirchner,\* in examining the garrison lazaret of one of the army stations, experimented on forty-two pigs by inoculation with dust suspended in bouillon or implantation of dust-infected sponge in abdomen. Twenty-six, or 61.9 per cent., died from the operation and infection of the wound. Sixteen, or 38.1 per cent., remained alive. One of the sixteen developed tuberculosis.

The writer secured the dust from a large city hospital out of the wards occupied by male and female tubercular patients. From male ward were inoculated three pigs with one-half square yard of dust. From female ward were inoculated three pigs with one-half square yard of dust. From female ward were again inoculated three pigs with little less than one-half square yard of dust. Of male ward pigs, one died ; of female (first lot), all three died ; of second lot, one died of an intense cellular inflammation much resembling a malignant œdema. All these died on the first to third day after inoculation. The four living pigs were killed in sixty days, and one of those inoculated with dust from female ward had well advanced tuberculosis ; thus, twenty-five per cent. of the pigs remaining alive developed tuberculosis, while 55.5 per cent. died of acute infection, some of which might have developed tuberculosis. In these wards the beds were carbolized once a week, the floors washed daily and scrubbed twice a week, the walls rekalsomined every six weeks, and Seabury & Johnson's cuspidors used, which were changed twice a day. In the female wards, however, long pieces of cheese-cloth were given to the sickest and weakest patients, which were used as a roll to spit into, and would last a patient

\* M. Kirchner: Einige Untersuchungen von Staub auf Tuberkelbacillen. Zeitschrift f. Hyg. u. Inf. Krank, B. 19, S. 153, 1895.



from four to eight hours. This, in all probability, was the source of infection.

A close perusal of these results shows that the careful disinfection of the sputum has been productive of good results, but not yet fully satisfactory, since in each experiment the dust has been infected with tubercle bacilli. Of far more importance, however, is the fact that the dust was infected to such a virulent degree with other germs; to-day we know how much more serious are the cases of tuberculosis with mixed infection than are those of simple tuberculosis. That the latter may quickly be changed into the former when patients must live in an atmosphere laden with infectious germs is scarcely to be wondered at, inasmuch as, according to the above experimenters, three hundred and sixteen out of five hundred and forty-three inoculated pigs (or 58.1 per cent.) were killed by some form of infectious disease, the germs of which were contained in the dust.

Mixed infection is a most important factor in relation to a tubercular patient's condition, whether this arise from without by inhaling the germs of a heavily infected atmosphere, or is the result of an inflammatory process in the lungs. To it may be attributed the sudden and rapid changes for the worse in patients, who were doing well under proper climatic surroundings, after a sojourn of two to four weeks in a large city.

May not the condition of "hospitalism" met with among the internes of the large hospital, and so frequently the precursor of tuberculosis, also be due to the same cause?

A few words concerning the best means of disinfecting sputum. Fire is unquestionably the very best disinfectant, but patented cuspidors are expensive; in place of these any cheap material, old pieces of linen, Japanese napkins, or even pieces of newspapers, can be used. If such are made use of, *they never should be used but once*; then, after being placed in some suitable receptacle, should all be burned together. In a word, nothing into which a patient has expectorated should ever be handled again, and should not be allowed to dry. M. Kirchner\* has shown, by inoculation experiments, that sterilization for one-half hour is a thoroughly efficacious disinfectant.

Dry heat (100° C.), however, must be applied for several hours (Schill and Fisher).† The same experimenters give their conclusions concerning the disinfecting powers of various antiseptics, as follows: Sublimate solutions cannot be considered suitable for disinfection of masses of tubercu-

\* M. Kirchner: Ueber die Nothwendigkeit u die beste Art des sputums-disinfection hei Lungentuberculose. Zeitschrift f. Hyg. u. Inf. Krank. Leipzig, 1892, xii., 249.

† Schill and Fisher: Ueber die Disinfection des Auswurfes der Phthisiker. Mittheilungen aus dem Kaiserlichen Gesundheitsamte, Bd. ii., S. 133, 1884.

lar sputum. Absolute alcohol gives indifferent results. Equal parts of a five per cent. carbolic acid solution and the amount of daily sputum will destroy with certainty the tubercle bacilli and spores in the sputum.

Delepine and Ransome\* have shown, by inoculation experiments, that solutions of chlorinated lime, 1 to 10 and 1 to 100, will satisfactorily disinfect the walls of infected rooms, or bed linen and clothing that has been infected.

It is to be hoped that formaline will prove an efficient disinfectant, owing to its easy applicability and its non-corrosive action upon metals. The most powerful and, at the same time, freely obtainable agents are the sun's rays and diffused daylight. They can be used by everybody, and have been proven to be the most efficient disinfectant known.

It has been the writer's aim to enlighten the public mind concerning the freedom from danger of contact with tubercular patients, where the necessary sanitary precautions are taken to destroy all sputum. This is shown by the positive proof that, with the exception of one cottage where cause for infection was discovered, all the cottages, the infirmary, and public sitting-rooms of a community of eighty tubercular patients, were found free from tubercular infected dust.

Since Koch's discovery of the tubercle bacillus, and the subsequent proof that it alone is the cause of the widespread contagion of tuberculosis, the enforced improved hygienic laws and the dissemination of the knowledge of successful preventive measures have been productive of good results, as shown by the mortality tables of various countries, viz. : In New York State the mortality in 1889 was 120 per 1,000, whereas in 1894 it was only 108.46 per 1,000.

Much more can and will be accomplished within the next few years by education of the public and preventive legal measures ; along with our efforts, however, to prevent those who are tuberculous from infecting their fellow-men, let us, at the same time, look out for their well-being, and try to save the lives of many of them. How better can we accomplish this than by patterning after the sanitarium, where sunlight, fresh air, good food, and out-of-door life, with separate cottages for each group of four or five patients, allow them the best chance of recovery ?

On the question of comfort, on the question of pure air, free from all germs of disease, on the question of economy, on the question of hygiene, and, finally, on the whole question of humanitarian principles, how much better off is the lingering consumptive in the open country or in the mountains than he who is cooped up within four walls of a city hospital, with a measured cubic foot of air-space, spending his days and nights in an atmosphere artificially ventilated with air that is already contaminated.

\* Delepine and Ransome : A Report on the Disinfection of Tubercle-infected Houses. British Medical Journal, No. 1,781, p. 349, February 16, 1895.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### INDICATIONS FOR OPERATIVE INTERFERENCE IN GALL BLADDER.

(1) In cases of repeated attacks of biliary colic, apparently due to gallstones, which, not yielding to medical treatment, are wearing out the patient's strength. (2) In perforation from ulceration. (3) When there is suppuration in the neighborhood of the gall bladder set up by gallstones. (4) In empyema of the gall bladder, which is usually accompanied by peritonitis. (5) In dropsy of the gall bladder. (6) In obstructive jaundice, when there is reason to think that the common duct is occluded by gallstones.—*Medical Record*.

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### MULTIPLE WARTS OF FACE.

Sulphuris sublim.....5 scr.  
Glycerini.....1½ scr.  
Ac. acet.....2½ scr.

S.: Apply locally to each wart. The warts dry up and then drop off. The treatment may be continued for several days.—Koposi, in *Medical Record*.

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### DIAGNOSIS OF THE PNEUMONIC FORM OF ACUTE PULMONARY TUBERCULOSIS.

Drs. A. Frankel and G. Troje state this to be a rare form of the disease. It may begin with a chill, as croupous pneumonia, or be more insidious, or with a series of lesser chills. The fever soon becomes atypical, more



or less remittent or intermittent, which latter sign is a certain diagnostic point to distinguish it from croupous pneumonia. Some patients present labial herpes. The pulse is always moderate, and respiration less disturbed than one would expect from the lesions. Instead of dyspnœa and cyanosis, there is an increasing paleness of the skin and mucous membranes. On auscultation, signs of considerable infiltration of even a whole lobe, thus simulating a croupous pneumonia. Besides pronounced bronchial respiration, extensive crepitation is observed. The most posterior portions of the lung, and generally the lowest lobe, are the favorite sites of predilection. During the course of the disease, the dullness may clear up without signifying an actual resolution, for râles are still present. A complete or partial resolution may at times occur. The expectoration is characteristic of pneumonia in the majority of cases; tenacious, clear, and translucent; in a few cases it is rust-colored, while in others it presented a grass-green coloration, which Traube states to be characteristic; hæmoptysis may also be present. Tubercle bacilli are found in the majority. Albuminuria is very rare. Ehrlich's diazo-reaction is both of diagnostic and prognostic importance; it was very pronounced in all the fatal cases, but was absent in those that recovered. Delirium was observed now and then, even in non-alcoholics. Where the affections begin acutely and the expectoration is lacking or pneumonic, and no bacilli can be demonstrated, diagnosis is impossible. If it last for some time, then the following points will be of value: Lack of a typical or final crisis, frequent absence of dyspnœa and cyanosis, together with the early pallidity, the green color of the expectoration, and the presence of tubercle bacilli. The diazo-reaction in the urine from the commencement; rapid loss of strength and emaciation. The prognosis is very unfavorable.—*New York Medical Times.*

#### TREATMENT OF ADVANCED CASES OF PHTHISIS.

Dr. Otis summarizes the therapeutic agents which are best calculated to alleviate the lingering sufferings of the last stage of phthisis. He calls attention to the frequent presence of sepsis, and holds that all treatment in these cases must be symptomatic. The diminished lung capacity necessitates an airy room, in which sunlight is required as a tonic antiseptic. Feeding is a difficult question; in bad cases there must be frequent administration of easily or partially digested food. Pepsin, charcoal, and bismuth tablets may be of much service. Malt and creosote, with cod-liver oil in the absence of fever, should be given, and alcohol is to be used freely. Fever should not be treated unless causing unpleasant symptoms; inunction of guaiacol reduces the temperature very effectually, but is severely depressant. Rest in bed, with light nourishment and a

glass of cognac half an hour or so before the expected rise, has a favorable effect on the temperature. Antipyretics (of which phenacetin and sodium salicylate appear the best) should be employed, if at all, to prevent the rise of temperature rather than to lower it after it has risen. Sweating is best controlled by agaracin in doses of  $\frac{1}{12}$  grain and upward; it is free from the after-effects of atropine. The distressing cough is due partly to the presence of material in cavities, partly to the irritability of the mucous membranes of the upper air-passages. That from the latter cause can be much alleviated, as Dettweiler has pointed out, by establishing a habit of self-restraint in the patient. Medicinally, codeia in one per cent. solution is the best agent. The morning paroxysm of coughing is necessary for expectoration of the products accumulated during the night; it can be shortened, and, at the same time, made easy and effectual, by administering a glass of some warm alkaline drink with a little brandy or rum in it. Cough from catarrh of the upper air-passages is often relieved by local applications. Vomiting may result from digestive disturbances or laryngeal irritation, and will require different treatment in each case. The various pains from which the patients suffer are best relieved by painting equal parts of glycerine and guaiacol over the affected area. Pleuritic pain at the base of the chest should be treated by strapping, as suggested by Roberts. Diarrhoea, when septic, indicates salicylic acid or naphthol; when due to tuberculous ulceration, opium and bismuth, with an astringent; this form requires careful dieting with peptonoids or peptonized milk. Hæmoptysis calls for the same treatment as in early cases; Darenberg recommends the application of ice to the testicles or vulva for five minutes twice a day. Insomnia may be relieved by light nourishment or a little stimulant at bedtime; if these fail, trional or chloralamid are the most satisfactory hypnotics. Œdema of the lower extremities can only be alleviated by position, gentle friction with alcohol and water, and wrapping the limbs in cotton-wool. The mouth and lips should be cleaned with an alkaline wash. The anæmia calls for iron whenever it can be borne. For the cardiac debility strychnine is invaluable.—*The British Medical Journal*.

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#### TYPHOID FEVER.

The author concludes that (1) the antiseptic treatment is a rational one; (2) guaiacol is a safe remedy, and prevents the toxin-poisoning of the later stages; (3) it will lower the temperature when applied externally; (4) the typhoid patients do better by keeping the bowels acting up to a certain point, rather than checking them, and will derive comfort and benefit from daily douching of the large intestine with warm or cold water.—Hall, in *Medical Record*

# OBSTETRICS

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## INTRAUTERINE INJECTIONS OF GLYCERIN FOR THE INDUCTION OF LABOR.

Again we are warned as to the dangers arising from intrauterine injections of glycerin for the induction of labor. Dr. B. M. Hypes, St. Louis, in a paper read before the American Association of Obstetricians and Gynæcologists, September, 1895 (*American Journal of Obstetrics*), reports cases in his own practice, and also in the practice of others, where fatal results followed Pelzer's method. The glycerin, under such circumstances, affects especially the kidneys and the blood, causing nephritis and decomposition of the red blood corpuscles. Apart from the dangers, the method is very uncertain in effects. Within the last two years we have referred to this method a number of times. First, we recommended it with considerable confidence; afterwards, we expressed doubts as to its efficacy; now, we advise our readers not to adopt it at all, on account of the grave dangers accompanying it.

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## ECLAMPSIA IN MOTHER AND CHILD.

An interesting case of this rare condition is reported from Schauta's clinic in Vienna by Woyer (*Centralblatt für Gynäkologie*, 1895, No. 13). The patient was a primipara, and was admitted to the hospital partially comatose and suffering from eclamptic convulsions. Labor was hastened by an elastic dilator, and the child delivered by version; it was asphyxiated, but was resuscitated. The mother made a gradual recovery, and left the hospital two weeks afterward. Five hours after birth the child was taken with eclampsia, accompanied by tracheal râles and impaired respiration. The pulse rose to 144. In all, the child had four convul-



sions at intervals of an hour or two, and died cyanotic with heart failure after the fourth. The post-mortem examination showed acute œdema of the lungs as the only lesion present. Bacteriological examination of the various organs and examination of the urine found in the child's bladder gave negative results. The few cases of infantile eclampsia on record have ended fatally.—*American Journal of the Medical Sciences.*

#### THE TREATMENT OF ECLAMPSIA.

Zweifel (*Centralblatt für Gynakologie*, 1895, Nos. 46, 47, 48) details at considerable length the various plans employed at the women's clinic at Leipsic in the treatment of eclampsia, together with the results secured. This experience leads to the following conclusions: When the convulsions set in during labor, this is to be terminated in narcosis as speedily as possible. Should the cervix be softened, but the external os not dilated, dilatation should be carefully effected with the aid of distensible rubber bags, or, at most, small incisions may be made. If, however, the cervix is not obliterated, although the os will admit a finger, rubber bags should be employed; longer incisions will now be required. Should the convulsions continue after the uterus has been emptied and hæmorrhage not have been excessive, free venesection may be practised, especially if the arterial tension be high. Under the latter condition blood may be withdrawn even before labor, if the cervix be unyielding. Nothing is to be given the narcotized patient to swallow; fluid may be introduced into the stomach through the tube; lavage is to be practised when digestive disturbance exists. Either chloroform or ether may be employed to induce narcosis. The most rigid asepsis is to be observed throughout, as infection may be responsible for a continuance of the attacks.—*Medical News.*

#### A CASE IN WHICH A CONVULSION OCCURRED IN A HEALTHY WOMAN DURING THE ADMINISTRATION OF CHLOROFORM.

We so frequently see notes of cases of death during the administration of an anæsthetic that it is well to place on record all cases where any events of an unusual character occur, whether followed by death or not, since it is only by the accumulation of such cases that we can arrive at the truth as to the relative danger or safety of the various anæsthetics. In this case the chloroform used was manufactured by Messrs. Duncan & Flockhart, and some from the same bottle has been used by me, both before and since, without any unusual results.

Mrs. M., aged about 34, a primipara, went into labor about 2 p.m. on October 13. The presentation was vertex, position r.o.p.; the cervix was very rigid, and dilatation of the os, in consequence, slow, in spite of the

administration at various times of opium and chloral hydrate. There was a great deal of vomiting. At about 2 p.m. on October 14 the os was almost fully dilated, but after the membranes had been ruptured the pains became feeble, so that little progress was made. Between 3 and 4 p.m. I commenced to administer chloroform, with the intention of applying forceps. She took the anæsthetic very quietly, and all went well for the first few minutes, when suddenly clonic spasms of the face and limbs came on, the pupils being widely dilated and not reacting to light. The clonic spasms passed into tonic, and as the chloroform was pushed further these in their turn passed off. As soon as she was deeply narcotized the forceps were applied to the head, and delivery of a large, healthy child effected in about ten or fifteen minutes. There were no further convulsions. The puerperium was normal, and she made a good recovery.

A few hours after delivery the urine was drawn off with a catheter, and was found not to contain any trace of albumen, its specific gravity being 1025. I found on inquiry that she had always been quite healthy, and that she had never before had any convulsion, nor suffered from any nervous disorder; she was not at all nervous or excited during the prolonged first stage of labor, and showed no symptoms of hysteria. Her heart was found to be quite healthy and normal, except for the slight hypertrophy of the left ventricle usually found in the later stages of pregnancy.

In the *British Medical Journal* of October 19 is an account of a death under chloroform where a clonic spasm preceded death; and this frequently appears to be the case. Here, however, a convulsion occurred in a perfectly healthy woman, apparently as the result of the administration of the chloroform, and yet no untoward result followed.—*G. Owen C. Mackness, M.D., in British Medical Journal.*

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#### EXAMINATION OF VIRGINES INTACTÆ.

The bimanual examination of *virgines intactæ* should always assume the form of a recto-abdominal palpation. There is no need in these cases of a vaginal examination; the finger in the rectum will teach us all we wish to know concerning uterus, tubes, and ovaries. The only difficulty to be overcome is to identify the cervix; a little practice will enable us to master this detail.—*Edebohls.*

## SURGERY

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### ENLARGED PROSTATE.

Reginald Harrison has recently published a paper\* in which he discusses the subject of the pathology of enlarged or hypertrophied prostate. He regards senile enlargement of this organ as an example of a muscular hypertrophy analogous to other similar kinds of overgrowth, and arising out of the muscular functions in which the part is unceasingly engaged. The prostate is described as "a muscle containing a tolerably large proportion of glandular or secreting tissue embedded in it." Its function relative to the sexual act is "in supplying a vehicle which enables the fecundating fluid to act with greater certainty over a larger area, whilst at the same time it supplies a muscular buttress against which the ejaculatory muscles of the urethra may advantageously act in the emission of semen." This is the view expressed by Dr. Hanfield Jones and accepted by Mr. Harrison. The description of the prostate as resembling a Spanish chestnut in shape conveys an erroneous impression; in life its muscle fibres are really spread out in a funnel-shaped manner, so as to furnish a contractile support for the bladder and its varying contents. The enlarged prostate also exhibits a persistence of this funnel-shape. The incision in the prostate in lithotomy, though limited, absolutely destroys, until repair takes place, the capability of the cone-shaped muscle to hold fluid; hence the absolute incontinence of urine which for some days follows such an operation. In some instances permanent incontinence of urine follows lateral lithotomy, apparently in consequence of the fact that complete division of the prostatic circumference has been made by too free an incision. Incontinence of urine in boys may be associated with an arrest in development of the prostate. After removal of the prostate for malignant disease control over the bladder is lost.

\* British Medical Journal, 1895, Vol. 2, p. 1605.



Whilst a considerable proportion of elderly males develop enlarged prostate, only a minority suffer from any ill-effects upon the urinary apparatus. The process of hypertrophy involves no structural substitution, or the importation of any foreign tissue to the part other than those degenerations such as fibrous, to which the human body is liable. In the study of instances of enlarged prostate in the post-mortem room, it is impossible not to be struck by the coincident changes that are taking place in the adjacent parts. For some reason or other there is a concentration of hypertrophied tissue in the form of buttresses or supports about the perpendicular axis of urine pressure at the base of the viscus. This is seen in the development of the inter-urethral bar, the growth of the prostate, the gradual approximation and consolidation of these two structures, and the restriction of the natural trigonal area. Assuming that from any cause, such as long retention of urine, habit, position of the body, or the debility connected with advancing years, the floor of the bladder sinks lower within the pelvis relatively to the prostate, so as to offer some difficulty in expelling the lost portion of urine, the effect will be frequently repeated efforts in all the muscles immediately adjacent to a part of the bladder, which, by reason of its connections and structure, has but little power of contracting. It is suggested that in this way quantity is substituted for quality, and that as age advances structural deterioration and incapacity are, in a measure, provided against by superabundant tissue. Although hypertrophy usually includes the entire gland, the posterior segment, or that in relation with the rectum, is principally involved. This part was originally described by Sir Everard Home in 1806 as the third lobe; subsequently Sir Henry Thompson showed that it had no independent or isolated existence. When this part is imperfectly or not at all developed, as is sometimes the case, it is interesting to notice that the inter-urethral bar may be hypertrophied independently; and this provision is made by a buttress of this kind for the support of the posterior wall of the bladder.

Mr. Harrison considers the inability to empty the bladder in connection with early forms of prostatic enlargement to be due, not to atony or paresis of the bladder, but to a sinking or tendency to prolapse of the posterior wall. During life we are able to convince ourselves of this by examination through the rectum and by the use of the catheter. The bladder alters its position relative to the pelvic outlet during life; as age advances, the bladder sinks more and more within the pelvis. In this way eventually a prominence is sometimes given to the floor of the prostate, which is due, not in the first instance to the development of more prostatic tissue, but to the subsidence of the posterior wall of the bladder. This mode of forming a prostatic bar is considered by Mr. Harrison to be the

initial lesion in hypertrophic processes which follow in the prostate. The glandular element of the prostate is apt to be overestimated in importance ; the prostate is rather described as "essentially a muscular organ." The fact, however, that it does contain gland tissue is in no way opposed to the view adopted by Mr. Harrison as to the circumstances under which the conglomerate growth is called into existence. The gland tissue is of a degenerated character in hypertrophied prostate.

Recently it has been stated that the operation of complete castration is likely to prove of service in connection particularly with the treatment of the more advanced forms of prostatic obstruction. Still more recently it has been held that subcutaneous ligature of the vessels of the cord, bringing about atrophy of the testis, has also led to similar changes in the prostate. Shrinkage of the prostate has followed other measures than castration ; the puncture of the bladder in the perinæum, with continuous drainage for six weeks, has brought it about ; and in a patient aged 82 this operation and treatment brought about considerable diminution of the size of the prostate and restored normal micturition, which existed until the patient's death eight years after. Atrophy of the gland follows impartation of scar tissue into its interior : a condition which exists upon any extensive incision for removal of a large stone. This only occurs in instances in which small portions of the prostate have been removed.

The views advanced relative to the pathology of the prostate by Mr. Harrison are not, he thinks, at variance with the shrinkage of the prostate following upon castration ; it is not necessary to prove that the testicle is essentially or exclusively a genital *gland* in order to understand the shrinkage that follows castration. That it secretes in association with the genital act no one will deny. That some atrophy must follow extinction of this function by removing the testicles is equally clear and logical.

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#### SKIN BRIDGING IN INGUINAL COLOTOMY.

A method of insuring free exit of fæces from the upper opening of the bowel after inguinal colotomy was described a short time ago by Mr. Bidwell, of the West London Hospital, and recently referred to by Mr. C. H. Golding-Bird in *The British Medical Journal*. The method consists in bringing the upper lip of the skin wound through an opening made in the meso-sigmoid, and attaching it to the lower lip of the wound, by which manœuvre the bowel comes to be placed across a bridge of skin, in lieu of one of glass or rubber, as employed by some surgeons. The operation is rapid. The bowel need have no sutures inserted into it ; and if the length of the skin incision is properly calculated, nothing more than the one suture to fasten the bridge of skin is necessary.

## GUNSHOT WOUND OF ABDOMEN.

The following case is reported by William H. Simmonds, M.D., in the *Medical Record*, to show what good results may follow immediate operation under favorable circumstances:

Michael M——, æt. 15, was shot with a 22-calibre rifle, April 27, 1895. Some three hours after the accident he was seen by me at the Bangor General Hospital, and at once operated upon. The bullet had entered about an inch above and to the left of the navel, and on the abdomen being opened was found to have passed through the edge of the left lobe of the liver and then through the stomach. Bleeding was going on from a vein near the greater curvature, and there were clots in the abdominal cavity. These were removed, the bleeding point tied, the wounds in the stomach occluded with Lembert suture, the intestines withdrawn and thoroughly searched for other punctures, finding none. The wound was sutured in layers, the boy put to bed, and discharged well May 16. Convalescence was quite uneventful, no rise in temperature occurring.

## TREATMENT OF CORD IN HERNIAL OPERATIONS.

The problem is to close durably a rent in the abdominal wall and to provide for the safe transmission of the spermatic cord. The cord is the first cause of the hernia and the ultimate obstacle to its cure. If we could ignore the cord, the solution of the problem would be comparatively easy. The larger the cord the greater the liability to a recurrence of the hernia. The size of the cord depends chiefly upon the veins. Then why not reduce the size of the cord by excising such veins as may be superfluous? By this procedure the cord may usually be reduced to less than one-third, and sometimes to one-fifth or one-sixth, of its original size. Two quite distinct sets of veins accompany the vas deferens. When the tunica vaginalis propria funiculi spermatici has been divided and the elements of the cord are gently spread out by the fingers, the larger superfluous bundle of veins lies at some distance from the vas deferens. A few delicate veins hug the vas deferens closely. The veins which we designate as "superfluous" are those which I regularly excise in operations for varicocele. We have not thus far seen atrophy of the testicle follow excision of these veins. Our cases have been observed with especial reference to this point. I think that there can be little doubt as to the advisability of reducing the size of the cord by excising these veins when they form a large bundle. —Halsted, in the *Medical Record*.



## PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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### A CASE OF ERYSIPELAS NEONATORUM TREATED BY ANTISTREPTOCOCCIC SERUM.

The male child of Mrs. B., aged three weeks, presented on October 4th, 1895, dusky redness spreading downwards from the umbilicus over the hypogastric and iliac regions, buttocks, and upper part of the thigh. The redness also involved the penis and scrotum, which were very much swollen. Above the pubes the skin was of a purplish red color, and pitted deeply on pressure. The umbilicus was not yet healed. The child was very ill, and refused the breast. The temperature was 102°F., the pulse 150. I gave an injection of 6 c.cm. of Ruffer and Robertson's antistreptococcic serum between the shoulders.

On October 5th the temperature was 101.2°F. The child was taking the breast, and looked better. The redness had not extended, had lost its defined margin, and the skin was not so tense. The scrotum was more swollen. Another injection of 6 c.cm. was given.

On October 6th the redness was fading, patches of normal color appearing in affected area. The temperature was 100°F., and the general condition of the child much better.

On October 8th the child was doing well, but a fresh patch of redness had appeared on the left thigh, and the scrotum was sloughing in one place. The temperature was normal. A further injection of 5 c.cm. serum was given.

October 13th. Since the last note all has gone well, and were it not for the slough on the scrotum the child would be quite well. The slough is about the size of half a crown, and is separating nicely. It involved the whole thickness of the skin and subcutaneous tissues. The slough separ-

ated on October 19th, leaving a granulating surface with healing margins. The ulcer left by the separation of the slough had healed on October 26th, and the child is now quite well.

*Remarks.* In the practice of the Plaistow Maternity Charity I have seen a fair number of cases of erysipelas neonatorum, but I have never seen one recover when the disease was so far advanced as in this case. I am convinced that the child's recovery is due to the antistreptococcic serum. No other treatment of any kind was adopted — Ernest A. T. Steele, L.R.C.P., M.R.C.S., in *British Medical Journal*.

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#### COMMON SALT FOR RINGWORM.

Noticing the fact that children suffering from tinea tonsurans speedily improve if sent to the seaside, F. J. Reilly (*British Medical Journal*, Nov. 23) recommends common salt in the treatment of ringworm. He treated three successive cases in this way, and describes the result in each case as marvellous. A cure was effected in less than four weeks. A strong solution of sodium chloride was applied to the scalp for five nights, washing it off the following morning with boracic solution.

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#### A NOVEL APPLICATION OF TENDON GRAFTING.

In the *Medical Record*, October 26, 1895, Milliken describes a new operation for deformity following infantile paralysis, and reports a case in which a healthy muscle was made to do the work of one which was completely paralyzed, without in any way interfering with its own function. The patient was a boy, nine years of age, who for seven years had been lame, in consequence of "dropping," together with extreme valgus of the right foot. The author, having made out that this condition was due solely to paralysis of the tibialis anticus, performed the following operation: An incision one inch and a half in length was made, extending from just below the annular ligament obliquely over the tendons of the extensor proprius pollicis and tibialis anticus. The sheath of each tendon was carefully opened for a distance of about an inch. The tendons were then split with a small fascia knife, and an inch flap partially detached from each. The flap from the tibialis anticus was left attached to the distal, whilst that from the extensor of the great toe was attached at its proximal or muscular end. The cut surfaces of the flaps were adjusted and sutured with three fine kangaroo tendons. This operation proved successful, as the patient, it is asserted, is now quite an expert on roller skates, walks without a limp, and can adduct the foot to almost the normal extent.

## A CASE OF SPINA BIFIDA OCCURRING IN THE CERVICAL REGION.

In the *British Medical Journal*, November 30, Edwards gives the following report of spina bifida in an unusual position. The tumor was noticed at birth, situated on the back of the neck, and about the size of a Tangerine orange, slightly constricted at the base and depressed at its summit. The skin covering the tumor was normal, and plentifully covered with hair at the base, but became thinner as it spread over its surface, and at the apex was thin, glistening, and bluish-white in color, and much wrinkled; the tumor could be emptied of its contents by pressure. The child died twelve hours after its birth. During its short period of life it had (the nurse informed me) several fits. On post-mortem examination the following conditions were found: The tumor communicated with the skull by passing through the foramen magnum and an opening in the neural arch of the atlas. The foramen magnum did not appear to be unusually dilated, the neural arches and formation of all the other cervical vertebræ being normal; neither was there any abnormality of the occipital bone, the torcular Herophili and the sinuses being complete. Spina bifida of the lumbo-sacral region is fairly common, but becomes rarer the higher the situation. In the Museum of the Royal College of Surgeons, amongst the specimens of the malformations, there is a specimen of a ligatured spina bifida occurring at the sixth and seventh cervical vertebræ.

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DERMOID OF THE TESTIS.

The following description of a dermoid tumor, exhibited at the London Pathological Society by Jackson Clarke, appears in the report of the society's proceedings (*British Medical Journal*, November 30, 1895): "A right testis containing a dermoid cyst as large as a hen's egg. The cyst is everywhere surrounded by the tunica albuginea. Its cavity is almost entirely occupied by a large intracystic projection which springs from the neighborhood of the hilum; the remaining cleft-like space within the cyst is filled with hairs and sebaceous matter. The central part of the intracystic projection contains bone and cartilage. The microscope shows the cyst to be lined with skin provided with pilo-sebaceous follicles, sweat glands, etc. No trace of the tubular structure of the testis could be found in the loose areolar tissue which separated the outer walls of the cyst from the tunica albuginea, though the vas deferens and blood vessels are normal." The condition was a rare one, only one other case being recorded in the society's Transactions, namely, by D'Arcy Power. The opinions of Lannelongue, Jacobson, Bland Sutton, and others were briefly discussed. As to diagnosis, cystic sarcomata occurring in infancy were alone likely to



give even a superficial resemblance to the condition in question. When the cyst occupied the interior of the testis, the treatment was that practised by Giles in this case.

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#### ANTISEPTICS IN OINTMENT.

(*Chemist and Druggist*, November, 1895.) Professor Koch, having found that carbolic oil possesses no antiseptic properties, the question of value of such agents when combined with ointment bases becomes of importance. Dr. E. Breslauer has undertaken to solve this problem by a series of very interesting and exact experiments, combining the various antiseptics, as carbolic acid, resorcin, corrosive sublimate, silver nitrate, boric and salicylic acids with various ointment bases and testing the bactericidal properties of the mixture. He found that in those bases which contain no water, as petrolatum, simple ointments, etc., very little or no antiseptic action is found, except with the mercury salts; while with hydrous-lanoline and cold cream, which contain a considerable proportion of water, a decided action was manifested. The failure of the action with anhydrous bases is not attributed to loss or alteration of the active constituents, but to the non-miscibility of oil and fats with the discharges from wounds and other secretions containing disease germs. Glycerine ointments act somewhat better, but are still inferior to bases containing water in considerable proportion, as cold cream. The cream seems to bring about that close contact between the bacteria and the antiseptic agent which results in the destruction of the former.—*Yale Medical Journal*.

# PATHOLOGY AND BACTERIOLOGY

IN CHARGE OF

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## PLEOMORPHISM IN THE BACILLUS TUBERCULOSIS.

Up to date (Dr. Hayo Burns, *Cults. fur Bact. und Parasit.*, June 22, 1895) Mafucci, Klein, Metschnikoff, Fischel, Nocard, and Roux have investigated the occasional occurrence of certain atypical forms found in pure cultures of tubercle bacilli. Usually, bacilli derived from tuberculosis in fowls were used, since they grew more readily and more abundantly than those found in human tuberculosis, with which they were, nevertheless, at one time considered identical. In 1892, however, Mafucci concluded that the bacilli from these two sources represented two distinct species, noting as one chief difference that very tendency to pleomorphism which had been found so frequently in the cultures from fowl tuberculosis. In the present article, Dr. Burns, on the other hand, describes experiments with human tuberculosis resulting in a complete demonstration of the occurrence of pleomorphism in this organism also. The cultures from which his preparations were made originated undoubtedly from human tuberculosis. They were, at the time of examination, five or six months old, and had never been subjected to a temperature higher than 37.5° C. Drying out had been prevented by the use of rubber caps. Their gross appearance was perfectly typical. The microscopic preparations were made in the ordinary way, carbol-fuchsin being used as the stain, 20 per cent. nitric acid, followed by alcohol as the decolorizer. Dr. Burns found a complete series of transition forms, from the ordinary small

slightly curved rod containing clear spaces usually accepted as "normal" to highly complex forms composed of a main stem, having offshoots springing from them, which themselves again might bear secondary offshoots. Following the lead of Metschnikoff, Fischel, and Mafucci, he considered this branching as real, and not merely apparent, in which he was supported by Prof. Graf, to whom he referred his specimens for examination. By countless experiments he showed that this pleomorphism was not dependent on any degeneration process due to old age (up to two and a half years), or to drying out of the media. He looked upon the branching as quite similar to that found in *cladotrix*, a genus of bacteria belonging to a group generally recognized as distinctly pleomorphic. Hence the relation of the bacillus tuberculosis to *cladotrix* is strongly suggested.

Dr. Burns regards the branching as characteristic of the saprophytic growth of the germ, since in the animal body it is never found. The much more frequent occurrence of branching in bacilli from fowl tuberculosis he explains on the hypothesis that in human tubercle the bacillus has become accustomed to a parasitic life, and that although still capable of saprophytic existence, as demonstrated by its growth on artificial media, yet it does not return readily to its proper saprophytic form. On the other hand, the higher temperature of fowls prevents the same completeness of adaptation to a parasitic existence, so that a return to the saprophytic form occurs readily.

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#### ETIOLOGY OF OZÆNA.

Abel has just published an extensive paper upon the etiology of ozæna, in which, in addition to a very complete account of the literature to date, he gives the result of extensive investigations of his own. His results are summed up as follows :

(1) There is in the nose a characteristic disease process (*ozæna rhinitis atrophicans bacillaris*), which begins with the appearance of small isolated patches of tough muco-purulent secretion, which dry quickly on the surface. The patch may increase more and more until it occupies extensive areas of the nasal mucous membrane.

(2) With the spread of the mass changes occur in the mucous membrane. Whether these appear first as an hypertrophy, then an atrophy, is not certain ; at any rate hypertrophy occurs, whilst atrophy of the mucous membrane and also the turbinate bones is the final result of the process (hence the name *rhinitis atrophicans*).

(3) In a certain number of cases a decomposition of the crust sets in, which is made evident by the unpleasant fœtor. This fœtor is an inconstant and secondary symptom.



(4) The disease may spread to the naso-pharynx, or may occasionally begin there. It may further spread to the sinus, to the middle ear, larynx, and trachea. In these localizations it begins always with the formation of the same small centre of secretion described above.

(5) The disease is infectious. The most important evidence for this is that in patients with diseased nasal mucosa new secondary centres may arise in other parts some distance from the primary lesions, *e.g.*, in the trachea and larynx.

(6) The cause of the ozæna process is the bacillus mucosus ozænæ, which resembles closely the pneumo-bacillus (Friedlander's), but can always be differentiated from it by certain marked characters. This bacillus is found in every stage of the process, always in the characteristic secretion. It appears never to penetrate the mucosa itself. It is found in no other affection of the nose. With the healing of the ozæna it disappears.

(7) The experiment of infecting a healthy nose with a pure culture of this bacillus with the result of producing the first stage of ozæna has been tried successfully, thus proving its etiological importance.

(8) The atrophy of the mucosa which occurs in the course of ozæna is to be considered as partly due to the action of the poisonous metabolic products of the bacillus, and partly to the pressure exerted by the crusts and the keratinized epithelium.

(9) The foetid decomposition of the secretion is not caused by the bacillus mucosus, but by other micro-organisms which require to be more closely studied, and which may be considered secondary infections. On account of the differences in these secondary infections, we can explain why foetor occurs in some cases, but not in others.—*Zeitschrift für Hygiene und Infectious Krankheiten*, Bd. xxi., Heft. 1.

# HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

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AND

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## DIPHTHERIA IN ITALY.

The author presents an interesting statistical study of diphtheria in Italy for the years 1887 to 1892 inclusive. During that period the number of deaths fell from 24,637 to 13,434, the smallest number being 12,284 in 1890. The disease is very unevenly distributed throughout the peninsula, the mortality ranging from 1.8 per 10,000 in the marshes to 15.8 per 10,000 in the province of Basilicata. The mortality in the country districts is much higher than that in the cities. As regards seasons, the disease prevails especially in the winter, the mortality figures for the four seasons being as follows : Winter, 10,945 ; spring, 9,293 ; summer, 7,315 ; autumn, 8,320. The greatest number of deaths occurred in children between one and five years of age, the preponderance of males over females being very slight.—Achille Sclavo in *Gazzetta degli Ospedali edelle Cliniche*, October 20, 1894.

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## TUBERCULOSIS IN NEW YORK CATTLE.

Binghamton, N.Y., December 26.—A special to *The Leader* from Deposit says : The State inspectors have condemned forty-nine head of fine Jersey cattle, the property of the Hon. Alvin Devereaux, of Chestnut Grove Farm. The cows were killed to-day. The inspectors were at the farm Tuesday, and found that nearly the whole dairy was suffering from tuberculosis.

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DR. GIBIER'S Pasteur Institute in New York, which has \$6,000 a year from the State, in aid of its invaluable work in decreasing the sum of human agony and terror from hydrophobia in the United States, has

recently been enabled to extend its scope by the establishment of an experimental station outside the city. Two hundred acres of land are purchased, and cottages, stables, and experimenting laboratories will be erected. The land will be stocked with cows, horses, sheep, mules, and goats, which will be bred with a view to the production of antitoxin for the prevention of cancer, diphtheria, etc. The land purchased is in Rockland county, N.Y., near Tuxedo, thirty-five miles from the city. The station, which will be known as "Pasteur," will cost over \$100,000 when completed.

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#### EASY STERILIZATION OF MILK.

Dr. A. Seibert, of New York, made thirty experiments with milk filtered through cotton. No cream is lost by the process, only germs and filth saved from use. Where plain milk gave 3,800 to 200,000 germs on culture plates, the filtered specimen would show only one-quarter that number. Filtration is found to be almost as good as sterilization.

[If the above is correct it will be of great advantage, since sterilized milk is not so good a food as milk not sterilized.]

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#### THE TREATMENT OF DIPHTHERIA WITH THE ANTITOXIN.

At a recent meeting of the Berlin Society for Internal Medicine, Eulenburg (*Deutsche medicinische Wochenschrift*, 1895, No. 29, p. 472) made a preliminary report of the results of a collective investigation as to the results of the treatment of diphtheria with the antitoxin. Of 10,240 cases, 5,790 were treated with the antitoxin, with a mortality of 9½ per cent., while 4,450 were treated without the antitoxin, with a mortality of 14.7 per cent.—*Medical News*.

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A LAW has been passed in Pennsylvania creating a state board of undertakers in the cities of the first, second, and third classes. The law requires systematic examinations, registrations, and licenses for all entering the business of burying the dead. All applicants for licenses must be examined by the board, and found to be possessed of good moral character, skill, and knowledge of sanitation, preservation of the dead, disinfecting the body of the deceased persons, the apartment, clothing, and bedding, in case of death from infection or contagious diseases. All persons receiving a license from the state board of undertakers shall register at the office of the board of health at the city in which it is proposed to carry on business.



## OPHTHALMIA NEONATORUM.

This disease is received by the child either in the interval from the time of the rupture of the amnion to expulsion from the vulva, or after delivery, by touching its eyes with unclean hands. The questions arising are, shall we render the vaginal secretions innoxious by universal irrigation, or by the selection of suspected cases; or shall we inject each infant's eyes following delivery, or treat the infection on its appearance? Prophylaxis in the mother is the ideal. Irrigation is not, however, free from disadvantage. Therefore, it is not fair to make the innocent suffer, unless the sacrifice is much less than the benefit. A healthy woman will not affect the infant's eyes. My custom is to irrigate with a warm bichloride solution of 1.3500 when the mother has leucorrhœa, gonorrhœa, or any ulcer, abscess, or abrasion. This is done in the stage of labor, and is repeated every four hours in prolonged labors, using an antiseptic oil composed of olive oil, 95 per cent., and oil of cassia, 5 per cent.; as an offset to the chief evil of irrigation—the washing out of the mucus secreted in labor. Children born of women so treated do not need injection of nitrate of silver, but should have the eyes washed with soft cotton dipped in a boracic acid solution. If we are in doubt as to a patient, it is the least evil to employ the vaginal irrigation. In cases of gonorrhœa, the child's eyes should be treated after Credé's method, in addition to the irrigation of the mother.—*Archives of Pediatrics*.

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ASEXUALIZATION OF CRIMINALS FOR THE PREVENTION OF SEXUAL CRIME.

Dr. F. L. Sim, of Memphis, Tenn., in an able paper read before the Tennessee Medical Society, presents some strong arguments in favor of the sterilization of certain criminals for the curtailment of the crime of rape. He justly says that executions partake of a spirit of revenge, and engender criminal instincts in some, and fan the flame in others; that innocent lives have been thus sacrificed by the fallibility of witnesses; that other more humane and scientific punishments can be substituted that will convey a sufficient object lesson; the taking of life is more than the demands of society render necessary. These sentiments cannot be too widely disseminated in any civilized community.

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THE PREVENTION OF INSANITY.

The address of the president of the Psychological Section of the British Medical Association dealt with the prevention of insanity. Typhus is as rare as the plague, cholera is kept at bay, typhoid is becoming rarer and rarer, smallpox is under control, and the tubercle bacillus is being circum-

vented with hygienic precautions ; yet insanity and neurotic conditions increase rapidly in ratio to the population wherever the torch of civilization is burning. The orator on this occasion seemed to have no remedy to propose other than an intelligent, natural selection. His suggestions are on the lines of Doctor Raycraft's utterances on Darwinism and race progress, who, speaking of natural selection in preserving the race, says : " If we attempt to do away with its selective influence, namely, the elimination of the weak and the preservation of the strong, we must supply this selective influence by something else, or the race will tend to deteriorate. As selection is the race-changer, we must replace selection by the microbe, by the selection of human forethought." Doctor Blandford dovotes his attention to indicating in what the selection of human forethought must consist. Heredity is maintained to be the principal factor in the etiology of the disease. Doctor B. W. Richardson has given it as his opinion that anything like continuous transmission of insanity comes through the male line and not the female. " I take it," he said, " that, really and truly, all taints come from the primitive man—all changes that are hereditary—and that it is impossible to suppose them originally from the woman." This the orator doubted. It is rare one sex has greater transmissive power than the other. The only remedy proposed was restriction of the marriage relation, and prohibition of offspring to those whose family histories revealed inherited taint.—*The Physician and Surgeon.*

## Editorials.

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### MEDICAL REFORM.

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AT the recent meeting of the Provincial Board of Health, held in Belleville, Dr. Bryce, the secretary, read an interesting paper, in which he strongly advised certain medical reforms. He expressed a decided opinion that it would be better to have one medical health officer for each county, instead of one for each municipality. He considered that such a change would promote both efficiency and economy in the public service. He showed that the amount spent at present by the government to maintain municipal health organizations was entirely inadequate, especially under the present system; but thought the change which he proposed would enable health officers in various parts of Ontario to do much more efficient and economical work without any increase of the government grant. The paper has been circulated through the province, and the various county councils have been asked by circular to consider the question.

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### THE CIGARETTE HABIT.

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WE are told that all devotees of the cigarette inhale it, draw the smoke into the trachea, and probably, in many cases, into the first division of the bronchial tubes. Dr. J. C. Mulhall, of St. Louis, in an address read before the American Laryngological Association, and published in the New York *Medical Record*, says that the idea that the smoke of the cigarette, when inhaled, passes into the air vessels of the lungs is a popular delusion.

We have consulted some members of the profession in Toronto who smoke cigarettes, and find they agree with Dr. Mulhall in saying that the smoke from the cigarette is not, as a rule, drawn past the trachea, and the smoke does but little harm as an irritant to the mucous membrane of air passages, but that it may aggravate pathological conditions already present. A large proportion of nicotine, however, is absorbed during an inhalation, because there is a large surface to absorb; and though but little of the



poison is contained in a cigarette, a greater proportion is absorbed than when the smoke is simply drawn into the mouth and at once blown out. Inhalation of cigar or tobacco smoke is accompanied by much more danger than in that of cigarette smoke. Dr. Mulhall expresses a decided opinion that cigarettes do not contain other poisons besides nicotine, although many have expressed their opinion that other noxious elements may be found in certain brands.

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### IMPROVEMENT OF THE PHYSIQUE BEFORE BIRTH.

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IN an editorial on this subject, the *New York Medical Journal* refers to certain remarks by M. Pinard on what he calls "intrauterine puericulture." It seems that "refuges for pregnant women" have been established in Paris, where abandoned women are admitted and cared for. The result has been a disappearance of the majority of the grave symptoms formerly observed in those who applied for medical treatment. M. Pinard had made a careful comparison of the results on the children of the women in the refuges and the children of women who did their ordinary work up to the time of labor, and found that the average weight of the children of women who had been in one of the refuges during pregnancy, or the greater part of it, was eight pounds; that of the children of the women who had been in the refuge for ten days before labor was six and a half pounds; while that of the children of women who had worked up to the time of labor was six pounds.

With reference to the duration of pregnancy, under varying circumstances, he found: Among 1,000 women who had worked up to the time of their confinement, 280 days had elapsed between the last period of menstruation and confinement in 482 cases; from 270 to 280 days in 279 cases, and less than 270 days in 239 cases. In 1,000 women who had lived in the refuge during their pregnancy, 280 days or more had elapsed in 660 cases, from 270 to 280 days in 214 cases, and less than 270 days in 126 cases.

As M. Pinard says, these figures speak for themselves, and show that women who are well housed and well cared for have longer periods of gestation, and better developed children, than their less fortunate sisters. In a country like France, where all male children born in ordinary maternity hospitals and refuges are expected to become soldiers, the development of a "strong population" is very important, and any aids in that direction generally receive the careful attention of the government. There are two of these refuges now in Paris, and Pinard would like to see the number increased.

## MEDICAL MEN AS EXPERT WITNESSES.

OF late the public has had a more than usually large number of opportunities of seeing medical men occupying the witness box as expert witnesses, and the spectacle has not always been edifying. We do not wish to be understood as harshly criticizing our brethren, but simply to make a plain statement of facts, and suggest something in the way of remedy. The subject has been brought up time and again, but as yet to no purpose. No move has been made by anyone—although everybody admits and deplores the existence of the evil—to put things into the shape in which they ought to be.

The statement which we make now is the shortest and baldest consistent with clearness, and we hope that many will find time to use it as a text, and let us hear in future issues what the profession thinks of the situation, and how it proposes to remedy it, if remedy be needful.

(1) The medical expert of to-day, in this country at least, is a paid witness, whose services are at the disposal of whichever side comes to him first with a large enough fee in the hand. No doubt there are some who examine into the merits of a case before accepting a fee, and refuse their services if they believe right to be against them. This, however, is not the general course. The reason that things are in this shape is that, whilst called an "expert," the medical man is not treated as such; instead of being asked to determine certain points coming within his special ken as medical, he is asked to help to defend certain theories which are possibly quite wrong, and help to break down others, even though obviously correct.

(2) Medical men acting as expert witnesses are expected, when more than one has been engaged by the same side, to consult together and determine beforehand what line they will take, the object being, not that truth may be thereby brought out, but that there may be no conflict of opinions in the witness box. Even Crown advocates desire this to be done. It is certainly not impossible to hold consultations in a fair way; but experience shows that the tendency is bad, with the witness in the position he holds at present, and even appearance of evil ought to be avoided.

(3) In many cases the evidence which a medical witness is about to give is deliberately canvassed by counsel, in order to ascertain whether or not it will give support to certain theories, and it may happen that new theories have to be built, or the witness excluded from the box. Suppose that a medical man is asked by the Crown officers to sit in court and listen to certain evidence, for the purpose of helping to determine whether an attempt at poisoning has been made, and concludes that some points

brought out favor innocence, ought he to allow himself to be "hushed," being paid his fee, *and not called as a witness?* Such cases have occurred.

(4) The fact that medical experts are put into the witness box and subjected to examination in the ordinary way is, in many instances, detrimental to justice. The occasions upon which medical men are called to the witness box are, so far as any one man is concerned, comparatively few; moreover, the matters upon which they are interrogated are often of such a character that definite, exact answers cannot be given; consequently, when attacked in cross-examination, as often happens, with a savageness born of the fixed idea of overturning the evidence, true or not true, it is not to be wondered at that they (medical witnesses) become nervous and make bad witnesses, or even break down. It is a difficult thing, at best, to make a statement in medical matters that shall be absolutely correct and fair, and, at the same time, quite understandable by laymen. The difficulty is greatly enhanced by the determination of counsel to prevent the answering of questions in the way desired by the witness, lest his client may suffer. Incomplete and distorted answers are thus put upon record, and utterly unfair use made of them.

So much as a short statement of the position of the medical expert witness, and some of the disadvantages under which he labors.

Referring to statement first, "The medical expert is a paid witness," etc., we believe, of course, that the laborer is worthy of his hire; but surely such a system as ours takes away much from the value of the testimony given. The very statement that one is a *paid witness* sounds ugly, and, as a matter of fact, it is now commonly stated amongst the laity and legal profession that according to the fee will be the swearing. Some way of paying should be devised which will remove this idea.

Then, with reference to consultation, no doubt it is not only proper, but highly useful, provided the position of the witness be the correct one, viz., an assistant judge; but, as things are at present, not only is the result doubtful, but the intention is distinctly bad. This is true of consultation between witnesses, and also of consultation between counsel and witness.

Lastly, as to the giving of evidence, we hold very strongly that the present method is highly detrimental to justice. A fair-minded and truthful witness, having quietly considered a case in his library, with all assistance requisite to a correct judgment at hand, solemnly, under oath, states the result of his deliberation. But this is not allowed to have its due effect. Counsel then takes the witness in hand and attempts, not to disprove what has been said, but to make the jury believe something quite different, and that by means of a presumably truthful witness who has already sworn as to what he believed. When all is done the witness may have been bullied



and made a fool of, but his first statement is still his opinion, and very likely a good opinion, although to the jury he may have appeared to desert it.

The remedy for all of this seems to us to be simple. It has often before been suggested. It is this: Expert witnesses ought to be judges' assistants, not bought evidence manufacturers. When expert medical knowledge is required, a judge should have the power (in consultation with counsel) to name a number of reputable and well-known medical men as members of a consulting board, to whom he can submit certain questions for answer, or whom he may ask to attend court to hear certain parts of evidence. These consultants should give a written statement to the judge to be used by him in instructing the jury.

# Meetings of Medical Societies.

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## TORONTO CLINICAL SOCIETY.

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THE twenty-sixth regular meeting of this society was held in St. George's Hall, December 11th, 1895, President Dr. J. E. Graham in the chair.

Fellows present: Drs. King, MacFarlane, Cook, Walker, Trow, Anderson, Leslie, W. H. Oldright, Meyers, Aikins, Harrington, MacDonald, Stevenson, Ryerson.

Dr. Edmund E. King read a paper on

### ORCHIDECTOMY IN ENLARGED PROSTATE.

The reader said that he had operated on five cases. The first case died from pneumonia on the third day. In the second case there was improvement within twenty-four hours, which continued. The third case got well. The fourth, he would refer to later in the paper. The fifth underwent removal of a portion of the vas deferens, and was doing well. He said no satisfactory explanation had been given as to why this operation benefited these cases, but statistics proved that it did. As to the removal of a portion of the vas, in one case it had proved unsatisfactory, but in the other the result remained to be seen. The reader then gave a description of the structure and the functions of the prostate. He then gave the various theories that are and have been held as to the causation of enlargement of the prostate.

CASE 4. Patient, aged 65, second wife living, well up till about five years ago. About that time he began to suffer severe pain in both testicles when the bladder was distended. It disappeared after micturition. He was especially troublesome at night. The urine flowed copiously at intervals. Was treated by a physician for a time for diabetes, although he was not told that there was any sugar in the urine. He suffered from constipation, and had attacks of nausea. The urine passed invariably after the bowels would move. About two years ago he began to suffer from pain in the end of the penis, and over the pubic region. There was

a stinging pain at the neck of the bladder at the end of micturition for three or four minutes. He never suffered from retention. Could not retain more than half an ounce frequently. The patient was referred to the reader in September, 1895. There was no odor to the urine, and the amount of residual urine was small. Water was drawn when the catheter was introduced  $10\frac{1}{2}$  inches. He advised removal of a section of the vas. Removed  $2\frac{1}{2}$  inches from each vas. Examined the portions removed, and demonstrated their patency. Patient was not allowed to urinate for two days. Following this he urinated every three to five hours, as compared with every one to two hours before the operation. The testicles atrophied considerably, and became soft and flabby. Left the hospital in twelve days. He reported continued improvement for four weeks, when the pain manifested itself again, and frequency of urination became more marked. In November patient said he was able to have complete intercourse with ejaculation. Returned for treatment just three months after his first visit. Urine healthy; flowed at ten inches. The prostate was much smaller, and appeared tender in the centre. Patient had to rise four or five times during the night. Delay in starting the stream was marked. Endoscopic examination showed the bladder to be in a healthy condition. The testicles were unequal in size, the left having developed to the size it was before the operation. On incising the vasi were found to be intact. A second operation was performed, and improvement took place immediately, and continued up to the present time, patient passing urine every seven or eight hours without any distress.

Dr. D. C. Meyers presented a patient who had been under treatment by him for some time for

#### ATROPHY OF THE MUSCLES OF THE RIGHT HIP,

which condition had dated back to an exposure to a draught eight years before.

Dr. MacFarlane pointed out that the symptoms corresponded to those of morbus coxæ.

Dr. King asked if the legs had been measured. There was apparent shortening on the affected side.

Dr. Graham thought the cause of the condition was in the hip joint.

Dr. Meyers said he had considered hip-joint disease when he first saw the cause. But from the history of the case, the slowness of the onset of the symptoms and the improvement under present treatment, he had excluded that form of trouble. He related the history of a peculiar case of progressive muscular atrophy that had come under his observation, to which this case bore more resemblance than to anything else.



Dr. J. E. Graham read clinical notes of some

PNEUMONIC CASES.

The first was in an alcoholic, aged 28, who had a typical attack, but severe, the crisis occurring on the ninth day. No special treatment was given, except digitalis, at the time of the crisis. The number of white corpuscles dropped from twenty to sixteen thousand, pointing to a favorable prognosis.

The second case followed measles in a child aged 12, and was marked by muttering and delirium. The stools were ochre-colored. The pupils were dilated and inactive. Albumen, granular and hyaline casts, were found in the urine. Temperature reached  $105^{\circ}$ ; pulse, 120; respirations, 26. Examination of the lungs negative for several days, when both apices were affected. White cells, 2,000. Post-mortem showed consolidation of both lungs; kidneys showing marked signs of parenchymatous nephritis. The patches of Peyer were elevated, showing the presence of enteric fever as well.

The third case was due to the staphylococcus, whose original focus was a wound of the finger, inflicted by a dirty knife blade. The post-mortem showed the kidneys to be large, softened, and disintegrated.

Dr. MacFarlane, who had opened an abscess which had formed at the ankle, discussed the surgical aspects of the case.

The meeting then adjourned.

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THE 28th regular meeting of the Clinical Society was held in St. George's Hall, January 8, Dr. J. E. Graham presiding.

Members present: Bingham, Murray, Macdonald, McDonagh, Cameron, Britton, Scadding, Temple, Grasett, Spencer, Primrose, Graham, and Brown.

RADICAL CURE FOR HERNIA.

Dr. Primrose showed a patient who had been operated upon by him for the radical cure of inguinal hernia. (Report will appear in THE PRACTITIONER.)

Dr. Grasett, in discussing the paper, spoke very highly of Halstead's method of operating, and said that in this case a similar operation might have been done.

Dr. Temple described an operation for the radical cure, in which he had assisted Dr. Ross. A prior operation had proved unsatisfactory, on account of the patient's indiscretion in getting up to go to the closet on the day following the operation. The operation he described was very similar to the one Dr. Primrose had performed.

## GUNSHOT WOUND OF ABDOMEN.

Dr. Grasett reported a case of gunshot wound of abdomen. Patient, young man, aged 17, who on the 9th of September, while cleaning a revolver, discharged a 22-calibre ball into his abdomen, the missile passing through a double flap of the trousers and two shirts. It passed through the abdominal wall, downward and outward,  $3\frac{1}{2}$  inches from the umbilicus. There was no hæmorrhage; he did not become unconscious, and was able to call for assistance. In two or three minutes the bowels moved. He was little shocked. The treatment adopted was the expectant. For a few days blood appeared in the urine. The patient suffered more or less from vomiting and pain in the abdomen. After a few days there was a certain amount of abdominal distension, and considerable pain over the region of the left kidney. The temperature reached as high as  $102\frac{1}{2}^{\circ}$ . Three small doses of calomel were given, followed by a saline. The temperature dropped to about normal, but the vomiting continued for some days. After six weeks all symptoms of the peritonitis disappeared, hæmaturia lasting only four or five days at the first. Dr. Grasett inclined to think that the bullet had entered the abdomen, but had not passed through the intestine, and lodged in the kidney. He referred to the literature of the subject.

Dr. Macdonald thought it possible that the bullet might not have entered the abdominal cavity, but reached the kidney by pursuing an erratic path. He drew attention to the difference in the projectile force of bullets of the same size.

Dr. Spencer believed that the bullet had entered the abdominal cavity and lodged in the kidney. Had it passed through the intestine, he thought more shock would have been produced. The bullet had probably penetrated the mesentery.

Dr. Primrose said that it was impossible for the bullet to reach the kidney without passing through the abdominal cavity, and he considered that it must necessarily have passed through the intestines.

Dr. Bingham called attention to the indications for operating in these cases, viz., meteorism, hæmorrhage, protrusion of the omentum, etc.

Dr. Graham drew attention to the very tortuous course bullets often took.

## ECTOPIC GESTATION.

Dr. Temple presented a specimen of ectopic gestation, and related the history of the case. The woman was aged 24, mother of four children, the youngest being eight months old. On the 20th of November, 1895, she expected to menstruate. That morning, on going to the kitchen, she fell into a faint, which lasted an hour. Her medical attendant, on being

called, sent her to bed, as she felt very poorly. There was a bloody discharge from the vagina. In three weeks she was admitted to the hospital, and on examination a cyst was found in the left pelvis. The speaker considered it a case of ectopic gestation, with rupture, and advised operation. It was found that the cyst had ruptured into the left broad ligament.

#### HYDROCEPHALUS.

Dr. Bingham reported two cases of spinal drainage for hydrocephalus. The first was in a child twelve months old, whom he had been called to attend for an attack of convulsions. The child was very irritable and had strabismus. He tapped in the lumbar region, withdrawing four ounces of fluid. The symptoms disappeared. On reappearance of symptoms, this procedure was repeated five times during the following three weeks with relief each time. The patient eventually died, however.

Second case was in a child two years and a half old, with a neurotic family history; similar treatment. Relieved condition for a time, but upon a return of the symptoms continuous drainage was resorted to; but owing to the difficulty of securing proved antisepsis the patient succumbed.

Dr. Primrose drew attention to the pathology of the condition of supporting the ill-nourished bones of the skull, and at the same time exerting pressure to promote absorption. These, however, had not given satisfactory results.

The meeting then adjourned.

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#### PATHOLOGICAL SOCIETY OF TORONTO.

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THE second regular meeting of the Pathological Society of Toronto was held November 30, 1895, in the Biological building.

The president, Dr. Carveth, in the chair.

#### ECTOPIC GESTATION.

Dr. Nichol presented a Fallopian tube, dilated, and containing blood clot and foetal membranes, representing the remains of a condition of tubal pregnancy, which he had recognized and removed before rupture. He explained the arrest of the ovum in the tube by reference to a previous "inflammation" following a second confinement, which he considered to have been septic salpingitis, and which had resulted in thickening, kinking, and strictures, or to desquamation of the ciliated epithelium, combined with interference with the peristalsis of the tube by the adhesions which were found at the operation, resulting from the same inflammation.



## ACUTE ENDOCARDITIS.

In the absence of Dr. John Caven, Dr. Hill presented a heart showing the lesions of acute endocarditis, with perforation of the anterior flap of the mitral valve, in a boy of 13 years. The valves showed the lesions of an old endocarditis, of which there had been, however, no history. The staphylococcus pyogenes aureus had been isolated from the affected valves. Some discussion followed as to the mode of infection, the theory of embolism of the vessels of the valves having been referred to.

## PUS IN THE MIDDLE EAR.

Dr. Anderson presented the petrous portion of a temporal bone, showing pus on the middle ear. It was obtained from a female subject of 41 years. The history of the case was not known further than that maniacal symptoms, followed by depression and coma, had been observed before death. The organs showed only the usual signs of septicæmia. The pia mater of the brain was congested. In the pus, diplococci and bacilli were found.

## GANGRENE OF ARM.

Dr. R. J. Wilson presented the forearm of a boy 4 years of age, amputated for gangrene of the hand. The boy had fallen and broken his humerus just above the elbow. The extended limb had been bandaged from fingers to shoulder, and then flexed and bandaged to a splint without any padding. A third bandage had been applied over the second.

Dr. Primrose quoted a similar case, and a general discussion followed.

## OLD AND RECENT MITRAL DISEASE.

Dr. Amyot then presented a heart, of which the following is his description :

Heart enlarged. Wall of left ventricle hypertrophied. Right ventricle dilated and its wall hypertrophied.

Chordæ tendinæ of mitral valve gone. Cusps thickened and shrunken, forming mere bands adhering at each end, leaving a button-hole opening 3 cm. long. On the auricular aspect of the valve a number of cauliflower excrescences, evidence of a recent endocarditis.

All these cusps of the tricuspid valve adherent to one another at their edges, making a funnel-like opening not more than two-thirds the normal size. The free edges are slightly thickened. May not the condition of this valve indicate foetal endocarditis?

Dr. Reeve presented the following case of

## DOUBLE ORBITAL CELLULITIS.

May 2, 1895. The patient, an artisan, aged 50, had worked until five days previously, when he was seized with la grippe (?) and came under the

care of Dr. Tyrrell, with whom he was seen at 5 p.m. There had been some pain in the left orbit for several days and some swelling of the lids on the left side, especially towards the inner canthus, which seemed due to a developing dacryocystitis. May 2, there was marked inflammation of orbit (left), and the right was also involved; and the patient was wandering. When seen in consultation at 5 p.m. he was practically comatose. There was a brawny swelling of eyelids, most on left side, moderate prominence of right eye, marked symptoms of left forcing lids apart. Slight chemosis, and both globes directed straight forward. Pupils large and insensitive; great turgescence and tortuosity of retinal veins and oedema of retina. At 8 p.m. patient in General Hospital; right hemiplegia and left facial paralysis were present. The accessory sinuses of the nose were explored and deep incisions into orbits made, with negative results. Death occurred about midnight. The post-mortem showed infective thrombosis of the ophthalmic veins, cavernous sinuses, and left internal jugular. The brain and membrane were healthy, and no lesion was found to account for the paralysis. The ethmoidal and sphenoidal sinuses were normal. A purulent focus was found in the left lung.

Remarks :

Orbital cellulitis, excluding trauma and ophthalmitis, is due, as a rule, to thrombosis of the cavernous sinuses, or to inflammation, etc., of the accessory sinuses of the nose; and the punctures and explorations were made with a view to give vent to any possible collections of pus, relieve pressure, etc., and establish diagnosis. A fatal result is almost invariable with double orbital cellulitis. The case seems sufficiently grave to warrant presentation, and is also given to show one of the grave possibilities of influenza, la grippe, etc. Septic pneumonia secondary to infective thrombosis of the lateral sinus and jugular from otitis is not very uncommon. In this instance the pulmonary lesion was doubtless the initial one, though, of course, there may have been some latent localized mischief which was rendered active by the last illness. There may have been some extravasation in the Pons to account for the paralysis, which escaped notice.

Dr. Reeve also referred to a case of

DOUBLE PURULENT CONJUNCTIVITIS

with ulceration of cornea, the source of infection being a discharge per vaginam occurring after parturition. The virulence of the inflammation and the apparent absence of any constitutional signs of absorption, etc., due to retained secundines, led to an examination of the secretions. Dr. Hill, who made the bacteriological examination, found the gonococci present, and thus the etiology and diagnosis, etc., were made clear.

The society then adjourned.

THE third regular meeting was held in the Biological Department, east wing, Saturday, January 5, at 8.30 p.m.; the president, Dr. Carveth, in the chair. The programme presented was as follows :

Dr. Edmund E. King read a paper on

ANGEIO-CAVERNOSA,

exhibiting the photograph of a case from which a large tumor had been removed from the right eyebrow. The section shows the growth to be a true cavernous angioma. [The case will be published in *THE PRACTITIONER*.]

*Discussion.* Dr. Peters referred to the probability of such angiomatous growths being congenital in all cases, and pointed out the analogy between such conditions and varicocele. Spencer, of London, has demonstrated, in connection with the almost constant development of the latter on the left side, that the scrotal veins of the fœtus on the left side are almost constantly larger than on the right.

In reply, Dr. King considered varices in any part of the body as congenital in origin.

Dr. Amyot presented a specimen of

RHINOLITH, WITH BUTTON FOR NUCLEUS.

Button was pushed into nose when patient was four years of age. Interference with breathing on one side ever since; susceptibility to inflammation, at least change of temperature; secretions foetid and irritating; did not know cause until button was removed, on examination previous to removal the concretion gave the appearance of a sequestrum from nasal septum. Several little pieces of concretion, buried in mucous membrane; bleeding only slight; no necrosis of bone; weight of concretion and nucleus, 33 grains; slowly soluble in nitric acid, with evolution of gas.

Dr. Thorburn also presented a specimen of rhinolith; weight, 122 grains. Nucleus may have been a knife point broken off during a previous operation. No symptoms, except occasionally offensive breath.

Dr. Amyot presented a specimen of

LARYNX (CUT-THROAT).

Two cuts made. The first extended through half of the thyroid cartilage, just above the false cords. The second was one-third inch above this, and only clipped off the most prominent part of the upper border of thyroid cartilage, severing completely the epiglottis; outer wound stitched; lived a week; outer wound had nearly healed; he had improved every way; had been fed all this time by the rectum; twenty-four hours before death was given egg and milk; he choked some; died from acute inspiration



pneumonia which extended in every direction. Pus extended up and down muscular septa. Right thyroid gland was slightly enlarged.

*Discussion.* Dr. John Caven referred to certain recent statements of authorities on physiology tending to show that the accepted view of the functions of the epiglottis might have to be modified. Stewart and MacCormick examined the epiglottis of a patient suffering from cancer, with perforation, which allowed the action of the epiglottis to be observed during deglutition. They found that it lay forward on the tongue.

Dr. Peters said that in the horse, at least, the epiglottis must be back over the rima glottidis during deglutition, since it rises above the soft palate, and would not, therefore, pass forward so as to lie on the tongue.

Dr. Peters presented specimens of

URINARY CALCULI REMOVED AFTER DEATH FROM THE BLADDER OF A  
BULL.

The specimens (which are from the Ontario Veterinary College) consist of an enormous number of calculi—probably 5,000—varying in size from a hen's egg to a pin's head. The largest one is somewhat tuberculated, and has evidently been formed by the adherence by crystallization of a large number of the smaller stones. Some of the medium-sized stones—those about the size of hazel-nuts—have curious shapes, as if they had occupied sacculi in the bladder wall.

Many of the smaller individuals ( $\frac{1}{3}$  to  $\frac{1}{2}$  inches) present somewhat concave facets, often to the number of 8 or 10 or 16 on a single stone. There is only one stone, about  $\frac{1}{3}$  inch in diameter, which is a perfect sphere. Some of the remainder are quite smooth, and of more or less rounded or oval shape, while others are rough and tuberculated upon the surface, as if not having been at all subjected to attrition. All the stones are white, with a slight tinge of yellow, and have a crystalline, translucent appearance.

In consistence they are hard and brittle, the fractured surface having a distinctly crystalline appearance, with striæ radiating from the centre. They are of uniform consistence throughout, the only approach to lamination being a slight difference in the quality of the white color, as though some parts were slightly denser than others.

The history of the case is very imperfect, but it is known that the animal had severe and painful symptoms during life, frequently passed stones, and finally died of exhaustion.

Chemical examination shows the stones to be pure ammonio-magnesian phosphate (triple phosphate), without a trace of lime—even so much as would yield a spectrum.

The purity of the stone is the more remarkable, as lime is almost a

constant ingredient of the calculi of the herbivora, usually in the form of the carbonate.

#### CARCINOMA.

Dr. C. M. Foster : J. G., æt. 63 years, under treatment for about two months, during which time the symptoms did not clearly indicate the nature of the disease from which he was suffering, although the progressive emaciation and cachectic appearance led to the diagnosis of carcinoma or tuberculosis.

The post-mortem examination was made four hours after death by Dr. Carveth and myself.

The stomach was found the seat of carcinoma, the liver and pancreas containing secondary deposits, the former being freely studded with them.

There were numerous adhesions between the different organs involved in the new growth, and also a great deal of matting together of the lymphatic glands and connective tissue in the immediate neighborhood. No further carcinomatous deposits were found.

The apex of each lung gave abundant evidence of old tubercular disease, the substance of the lung containing numerous calcareous deposits, and the surface puckered with cicatricial tissue ; while many firm bands of adhesion stretched across the upper part of each pleural cavity.

#### SPECIMENS OF CARCINOMA.

A. McPhedran : The specimens presented are from a man aged about 57, a laborer. Good previous history. Began to ail some nine months before his death. He complained of some pain after eating, beginning about half an hour after taking food, and lasting less than an hour. He vomited only rarely. There was craving for food, and much thirst. On entrance into the Toronto General Hospital, he was much emaciated. At the left costal margin was a little fullness, which increased and descended with deep inspiration. Induration was palpable. Examination of stomach contents after he had breakfast gave no reaction to Heffernan's test, and none for free Hcl. Death occurred from progressive asthenia.

Post-mortem by Dr. John Caven : Rigor mortis, *nil*—great emaciation—section—fat, *nil*—muscle greatly reduced in bulk.

*Lungs.* Left one shows old adhesions on posterior surface of apex ; weight, 12 ozs. Right, anterior apical adhesions ; great hypostasis ; weight, 27 ozs.

Both lungs show emphysema and considerable pigmentation.

*Heart.* Milk spots over both the right auricle and right ventricle. The heart is small—weight,  $5\frac{1}{2}$  ozs.; coronaries very prominent ; marked brown atrophy. Just below the diaphragm an enlarged and indurated

gland is seen projecting into the pericardium, close to the entrance of the vena cava. Slight atheroma of aorta.

*Spleen.* Closely attached to left kidney, weighs  $2\frac{1}{2}$  ozs.

*Kidneys.* The left one shows a small cyst ; capsule adherent, but does not tear the substance on stripping ; left suprarenal intact.

*Liver.* Pigmentation ; interstitial fibrosis ; at one spot on the surface of the liver there is a small nodule about twice the size of a pin's head ; it is composed of dense fibrous tissue ; the liver capsule dips under this nodule.

The gall bladder is distended, but there is no obstruction in the common duct.

*Pancreas.* Free.

*Glands.* The retroperitoneal were involved.

*Mesentery.* Numerous cancerous nodules were found throughout the mesentery. The nodules were situated between the two folds of peritoneum forming the mesentery, and were attached to the posterior walls of the intestine, involving all its coats, except the mucosa.

A similar nodule was found in the mesentery of the vermiform appendix, near to its extremity (which was cystic). This nodule had so compressed the appendix as to obliterate its lumen.

*Esophagus.* Greatly thickened.

*Stomach.* Was greatly contracted on account of a growth occupying its middle third ; more prominent on the lesser than on the greater curvature, and forming a dense, tight ring. The growth was nearer to the pylorus than the cardia. The tip of the little finger could be admitted through the ring. The pylorus was free. The growth was about  $1\frac{1}{2}$  inches in its maximum thickness, and about three inches in extent. The stomach, behind the growth, was much thickened and slightly dilated, and contained a little coffee-ground fluid.

*Bladder.* Under the peritoneal covering were found several cancerous nodules.

Dr. H. H. Oldright's specimens of carcinoma of the liver were then presented.

Dr. Anderson also read his notes of cases of carcinoma, and presented specimens.

(1) Patient, an old lady, æt. 73 ; had been ill one year. Extreme cachexia developed before death. Autopsy showed carcinoma of the liver, which was greatly enlarged, weighing 7 lbs. 5 oz., and had nodules scattered throughout its substance. Microscopic examination showed it to be of scirrhus variety. The condition in the liver was probably secondary. As autopsy was hurriedly made in a private house, the primary focus was not discovered. Stomach and intestines were not involved.



(2) Specimen of carcinoma of the head of the pancreas: it had produced extreme jaundice. It was of scirrhus variety.

(3) Carcinoma, involving the duodenum and the head of the pancreas, and extending to the under surface of the right lobe of the liver above, was adherent to the transverse colon below. It had also ulcerated from without inwards through the posterior wall of the stomach, near the pylorus. The pylorus was not involved, and the stomach showed no hypertrophy or dilatation. It is difficult to say whether the disease was primary in the duodenum or pancreas, as both were greatly involved, but it was probably advanced to a greater extent in the former. The patient had been ill one and a half years. Cachexia gradually developed. Microscopic examination showed it to be scirrhus in variety.

(4) Angeio-sarcoma of the liver, apparently primary. The piece of tissue from which the section was made came away with the trochar that had been introduced into the left lobe of the liver during an exploratory operation. Histologically, it consists mostly of round cells, rather large, with vesicular nuclei, and with a vascular stroma running between the individual cells. In places the cells were arranged in columns on either side of the capillary walls, in places assuming somewhat of an alveolar arrangement. Many of the cells were in process of karyokinesis, indicating rapid proliferation. In places the cells approached in appearance and arrangement hepatic cells.

(5) The tissue is very vascular, in many places the capillaries being distended with blood. The patient is still living—over three weeks since the operation—but is failing. There is no clinical evidence of involvement of any other organ. While angeio-sarcoma is a very rare primary condition in the liver, the present case presents the histological characters of that form of disease, and time will tell if it will also present the clinical history.

*Discussion.* Dr. Graham had seen Dr. Foster's patient on two occasions. A very careful examination was made, and nothing definite could be found. A fullness of the upper part of the abdomen and a slight feeling of induration below the liver were all that could be made out.

The case of carcinoma of the head of the pancreas presented by Dr. Anderson had a very interesting history.

The patient had for some years suffered from biliary colic. Severe pain in region of liver, followed by jaundice. The last illness did not differ much from the previous attack, except that the pain was not so severe and the jaundice was of longer duration. It was also noticed that there was greater loss of flesh and strength in this than in any previous attack.

HAIRY PIGMENTED MOLE REMOVED FROM THE FACE OF A CHILD AGED EIGHT.

Dr. A. Primrose: The mole was ovoid in shape, and about the size of a twenty-five-cent piece. It was congenital, and its removal was indicated

because of the deformity it caused on the cheek, and because it seemed to be taking on active growth and was ncreasing in size. Under the microscope the specimen exhibited numerous hair follicles, and a considerable amount of pigment in the Malpighian layer of the skin. There was also an undue development of round cells in the tissue about the hair follicles.

Moles are of interest in consequence of their relation to melanosis. Mr. Jonathan Hutchison\* has made some observations on this point, and refers to the frequent occurrence of melanotic sarcoma in the lymphatic glands originating from such pigmented growths. Thus he refers to a case occurring in the London Hospital in which an elderly man presented himself with a large mass in the groin; the patient was himself unaware of a small black mole on the foot which had originated it. Another case came under his care in a man, between 60 and 70 years of age, who had a glandular mass in Scarpa's triangle as big as a fish. It had been growing for a few months only. After a search a little black mole not so big as a split pea was found at the root of one of his toes, the presence of which had not been previously suspected. Mr. Hutchison was of opinion that this had become melanotic, although it had not shown any tendency to grow. The author further points out the curious fact with regard to moles which take on melanosis, that they may originate gland masses of very rapid growth and produce widely disseminated disease, without themselves growing at all; and not infrequently they remain so small that their possessor never recognizes their existence.

Mr. Hutchison is of opinion that senility favors the growth of congenital moles, and thus old people often find out moles of whose existence they had not previously been aware.

Dr. Primrose also presented a specimen of

#### OSSIFICATION IN THE TENDON OF THE ILIO-PSOAS MUSCLE.

This specimen was found in a male (colored) subject of apparently about eighty years of age, in the dissecting room of the University of Toronto. It consisted of a mass of bone, four inches in length and three-quarters of an inch in diameter, developed in the tendon of the psoas muscle; passing down to, but quite detached from, the lesser trochanter of the right femur. The subject presented also extensive osteophytic growths about many of the joints of the body, creating a widespread condition of arthritis deformans; this was particularly marked in the vertebral column, where numerous osteophytes occurred from the bodies of the vertebræ.

This condition of ossification in the tendon of the psoas constitutes the exostosis apophytica of Virchow. It is to be regarded, however, as a

\*Archives of Surgery, Vol. II., p. 220.

true osteoma. Fleischer\* described an osteoma of the tendon of the iliopsoas muscle in which he found the Haversian canals and medullary tissue arranged in the same typical manner as in bone. The bone production was traced to the connective tissue. According to Fleischer, the connective tissue at the seat of the tumor formation becomes more vascular, and presents active tissue proliferation, and is transformed into hyaline masses, in the interior of which bone cells appear. The hyaline lumps become coalescent and undergo calcification; osteoblasts then become active in the further development of bone. Senn† points out that we must make a distinction between calcification and ossification of connective tissue. "The production of bone is carried on in the embryo by a distinct and specific part of the mesoblast, resulting in the formation of the skeleton and the growth of bone, and the production of new bone can take place only from a matrix of cells derived from the osseous system. The displacement of osteogenic matrix into the surrounding tissues is as liable to occur as the displacement of matrix of epiblastic or hypoblastic tissues."

Osteomata have been described in muscle as well as in tendon; also in the lungs, the brain-membranes, the parotid gland, the skin (rarely), and in some other situations.‡

*Discussion.* Dr. W. Oldright referred to a case of melanotic wart which recurred after removal, and considered complete excision of such the only safe treatment.

Dr. H. H. Oldright's paper on "Carcinoma of Color and Liver" was postponed until the next meeting.

The presentation of the specimens of Drs. Graham, McKinnon, and Hill was also deferred to a later date.

The society then adjourned.

\* Quoted by Senn in his work on "The Pathology of Surgical Treatment of Tumors."

† Ibid.

‡ Zeigler's Pathology, section vi., p. 203.



## Book Reviews.

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Baily & Fairchild Co., of New York, take pleasure in announcing to the medical profession the establishment of the "Doctor's Story Series," to be issued quarterly at \$2 a year, 50 cents a number. Each number will consist of a complete work of fiction by medical authors. Only such works as are of established value will be reproduced in this popular form. King's "Stories of a Country Doctor" will be issued January, 1896, to be followed in March by Dr. Phillips' wonderful novel, "Miskel," and later by a new novel now in preparation by the same author.

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A TREATISE ON NERVOUS AND MENTAL DISEASES. For Students and Practitioners of Medicine. By Landon Carter Gray, A.M., M.D., Professor of Nervous and Mental Diseases in New York Polyclinic, Visiting Physician to St. Mary's Hospital, Neurologist to the Hospital for Ruptured and Crippled, etc., etc. Second edition, revised and enlarged, 72 illustrations and 3 colored plates. 733 pages. Cloth. Philadelphia: Lea Brothers & Co.

That a second edition of a work is demanded within so short a time as three years is of itself an evidence of its popularity. The above work has been rewritten and the illustrations much revised, and with considerable improvement. The omission of the bibliographical references can be excused; the material which occupies the space more than repays for it. The colored plates add materially as aids to the text. The work is good.

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DACOSTA'S MEDICAL DIAGNOSIS. By J. M. DaCosta, M.D., LL.D., President of the College of Physicians, Philadelphia, Emeritus Professor of Medicine, Jefferson Medical College, Philadelphia; Physician to the Philadelphia Hospital, etc. Eighth edition, revised and enlarged. Illustrated with engravings on wood. Lippincott Co., Philadelphia. Pp. 1104. Cloth.

This extensive work on physical diagnosis, now so well known, is devoted chiefly to practical medicine, and is designed to be a help to students and young graduates in the interpretation of symptoms and discrimination of disease. The eighth edition is very complete. It contains many wood-cuts of temperature charts, pulse curves, etc. Whatever of bacteriological interest appears to be established as valuable for diagnostic purposes has been incorporated.

THE INTERNATIONAL MEDICAL ANNUAL, 1896. A complete work of reference for medical practitioners. The conjoint authorship of thirty-nine distinguished American, British, and continental authorities.

Mr. E. B. Treat, publisher, New York, announces that he has in press for early publication the fourteenth yearly issue of the *Medical Annual*. The volume for 1896 will contain, as have the previous issues, a review of therapeutics for the year, together with descriptive articles on the new remedies, with clinical indications for their use; a dictionary of new treatment, giving a complete index of diseases and showing the latest methods of treatment, both medical and surgical, in a series of specially prepared articles and reviews from the pens of thirty-nine eminent members of the profession, on subjects with which their names are especially associated. The volume is copiously illustrated by colored plates and photographic reproduction in black and white.

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THE PRINCIPLES AND PRACTICE OF MEDICINE: Designed for the use of practitioners and students of medicine. By William Osler, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. New York: D. Appleton & Co., 1896.

The second edition of this popular text-book is now on the market. It has been thoroughly revised, and in part rewritten. The chapter on treatment of enteric fever includes a paragraph devoted to the consideration of the eliminative and antiseptic treatment as advocated by Thistle and others. The author's well-known predilection for the cold bath perhaps explains the meagre reference to the *newer* treatment. Instead of a statement of the views advanced by the advocates of the plan, we have at once a hostile criticism. To say that the presence of Eberth's bacillus in the intestinal contents throughout forms the basis of eliminative treatment shows a somewhat crude appreciation of the various features embraced in the theory of elimination, as applied to this disease. Coming from so close a reasoner as the gifted author, it suggests, too, that he may not have obtained the knowledge of the principles involved in this treatment at first hand. The objection that the organism must suffer if deprived of the services of bacteria which normally flourish in the intestine is surely not urged seriously. The bacillus coli communis is considered by many to be responsible for a fair portion of toxæmia.

In Section II. the articles on gout and diabetes have been largely rewritten and extended. Leukoplakia and eczema of the tongue have found a place in this edition. A new section has been added on affections of the mesentery, and under disease of the liver a description of the dislocations and deformities of that organ.

In the articles on Addison's disease, and exophthalmic goitre and myxœdema, will be found references to the new investigations.

It is surprising how the author has managed to incorporate anything of value that has transpired almost up to the date of publication.

We heartily recommend this as a text-book for students and a necessity for practitioners.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College; Professor of Surgery, Chicago Polyclinic; Attending Surgeon to Presbyterian Hospital, etc., etc. Illustrated by 575 engravings, including full-page colored plates. Subscription, only \$6, cloth; \$7, morocco. Philadelphia: W. B. Saunders.

We can recommend the above work very highly to the profession. The pathology of tumors is treated in a very elaborate manner. The author, as in previous publications, shows his bias to German authorities. This, we consider, is hardly fair, because there are other workers whose opinions have weight. The part of the work devoted to the operations is incomplete in description and unnecessarily abbreviated. For instance, in the operation of colotomy, according to the author, there is one, and only one, operation mentioned—Maydl's—and it is so described that one would have to be well acquainted with the operation of colotomy to successfully complete it from the description given. There are other operations, in which a bridge is used to form the spur, that many prefer and a majority use.

The chapter on Osteoma is very complete, and goes minutely into the question of the origin of bone tumors. The opening chapter on origin and nature of tumors, anatomy and biology, etc., etc., in fact, the first 135 pages, which treat of the origin and development, chemical aspects, pathological significance, etc., are most admirable and well worth the price of the work.

Every working surgeon should have the book at hand.

We believe that the subject of treatment should be elaborated in some instances, though. We would like to call Dr. Senn's attention to an error on page 451, where Sutton is credited with the observation made by Bell: "If the tumor is cut out, not cut into." It is only a minor matter, but may as well be put right.

We could elaborate further on the advantages of the work, but space does not permit. Mr. Saunders has been very lavish in illustrating the work, and we can commend a large number of the illustrations as being as good as any we have ever seen. The presswork, paper, and binding are first-class, as the work of this firm usually is.

THE MEDICAL DIGEST, 1840-90, AND APPENDIX TO MEDICAL DIGEST, 1891-95. By Richard Neale, M.D., London. Publishers, Ledger, Smith & Co., London.

We have received the third edition of this very valuable "busy practitioner's vade-mecum," which represents four daily hours of honest work, conscientiously continued during forty consecutive years (*British Medical Journal*), and an appendix to the digest which brings the work up to August, 1895. To those who have the last edition this appendix will probably be considered an actual necessity. To those who do not possess the work, we offer a strong recommendation to procure it as soon as possible. The price of the appendix is ten and sixpence; the price of the whole work, 1840 to 1895, is eighteen and sixpence. The following abstract of a review in the *Practitioner* (English), July, 1891, contains a good description of the character and scope of the work:



"The indefatigable author of this invaluable book of reference has once more laid the profession under a great obligation, by preparing a new 'jubilee' edition, bringing the references up to the beginning of the present year. Since its first appearance as a volume of the New Sydenham Society's series, in 1877, it has daily grown in favor with busy men, and now it may with truth be described as indispensable to all who in their practice find it wise and prudent to avail themselves of the accumulated experience of the century, in matters of diagnosis and of treatment. As the long series of medical journals lengthens upon our shelves, we often find ourselves perplexed and disheartened at the tedious disinterring process that has to be performed before we can come on some half-remembered article that might throw light upon a present difficulty. The periodical indexes furnished with most journals become themselves so numerous that they hardly abridge the toil of reference. It is here that Dr. Neale becomes a priceless guide and helper. This work is a digest, as well as an index, and often saves, by its pregnant hints, a visit to the shelves or to the medical library. For, as we have already remarked on a previous edition, the 'Digest' *is in itself often sufficient for our needs*. In the most concise form he tells us what suggestions have been made, *what remedies have been found useful*, what complications have occurred in the commoner, as well as the rarer, cases that occur in practice. Over twenty serials have been included in his plan; and the simple, yet certain, method by which their essential matter is extracted and tabulated deserves the highest praise, and the warm thanks of all Dr. Neale's professional brethren. The compact form of the work, its clear type, and its excellent arrangement, render it one of the cheapest works on the doctor's table."

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**MATERIA MEDICA AND THERAPEUTICS.** A practical treatise with especial reference to the clinical application of drugs. By John V. Shoemaker, A.M., M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital, Philadelphia, etc., etc. Third edition, thoroughly revised. Reset with new type and printed from new electrotype plates. Royal octavo, pages ix., 1108. Extra cloth, \$5.50 net; sheep, \$6.50 net. Philadelphia: The F. A. Davis Co., publishers, 1914 and 1916 Cherry street, and for sale by their Canadian agents, A. P. Watts & Co., 10 College street, Toronto.

This work, which has been received with great favor by graduates and undergraduates in medicine in the United States, is not as well known as it should be to the Canadian medical profession. The author has been very careful in making the book up to date in all points. Clinical experience, which we noticed only a few months ago recorded in medical journals, will be found compiled in this work. The book is divided into three parts. Part I. occupies about seventy-five pages, and includes a short outline of the pharmacy and materia medica of drugs, prescription writing, and classification of drugs under different therapeutic heads.

Part II. contains nearly 800 pages, and is devoted to the study of drugs conveniently arranged in alphabetical order. We note, with pleasure, articles on the most recently discovered compounds, such as salophen, formalin, tan-

ingen, bromphenol, chlorphenol, tolusal, tropococaine, etc. Much additional matter has been added to the articles on such drugs as acetanilide, antipyrin, creosote, hydrogen dioxide, trional, etc. Each drug is described as to its properties, preparations, physiological action, including toxicology and therapeutical application. Numerous illustrative formulæ and hints are given, showing the most eligible form of administration. The sections on animal extracts, secretions, or juices, and antitoxines, will be found to contain the most recent applications of these remedies.

The third part of the work contains about 250 pages, and deals with remedial measures other than drugs, and is the most complete account of these remedies that we have seen in a work of this kind. The following subjects are described: Electrotherapy, kinesitherapy, massage and rest cure, pneumotherapy, hydrotherapy and balneology, climatotherapy, psychotherapy, metallothrapy and suggestion, or hypnotism, diet in disease, mineral springs, effects of heat and cold, light and darkness, music, etc.; various therapeutic methods, such as acupuncture, transfusion, suspension in spinal disease, enteroclysis, etc. All these forces and agents play an important part in therapeutics, and often cure where drugs fail. Formerly Parts II. and III. were published in a volume separately from Part II. We think the author has made an improvement in the work in having it published under one cover, and that the book, taken as a whole, is one of the best treatises on therapeutic agents that we have seen.

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#### "THE JOURNAL OF EXPERIMENTAL MEDICINE."

In January, 1890, will appear the first number of *The Journal of Experimental Medicine*, a periodical devoted to original investigations in physiology, pathology, bacteriology, pharmacology, physiological chemistry, hygiene, and medicine. The journal is to be devoted exclusively to the publication of articles containing the results of original work in physiology, bacteriology, pathology, and the other sciences mentioned. Especial care will be taken to supply good illustrations whenever needed.

That the journal will be of high character and truly representative of scientific medicine in this country is assured by the character of those whose co-operation has been secured. It is believed that the interest in scientific medicine in this country, and the desire both here and abroad to find readily accessible the publications of American contributors to the medical sciences, will secure a large list of subscribers for the support of the journal.

Dr. William H. Welch, Professor of Pathology in the Johns Hopkins University, is to be the editor of the new journal, and with him will co-operate a board of twelve associate editors as follows:

*For Physiology*.—H. P. Bowditch, M.D., Professor of Physiology, Harvard University; R. H. Chittenden, Ph.D., Professor of Physiological Chemistry, Yale University; W. H. Howell, M.D., Ph.D., Professor of Physiology, Johns Hopkins University.

*For Pathology*.—J. George Adami, M.D., F.R.C.S., Professor of Pathology, McGill University; W. T. Councilman, M.D., Professor of Pathological

Anatomy, Harvard University ; T. Mitchell Prudden, M.D., Professor of Pathology, Columbia College.

*For Pharmacology.*—John J. Abel, M.D., Professor of Pharmacology, Johns Hopkins University ; Arthur R. Cushny, M.D., Professor of Materia Medica and Therapeutics, University of Michigan ; H. C. Wood, M.D., Professor of Materia Medica, Pharmacology, and Therapeutics, University of Pennsylvania.

*For Medicine.*—R. H. Fitz, M.D., Professor of the Theory and Practice of Physic, Harvard University ; William Osler, M.D., F.R.C.P., Professor of Medicine, Johns Hopkins University ; William Pepper, M.D., Professor of the Theory and Practice of Medicine, etc., University of Pennsylvania ; and a long list of collaborators.

The journal will appear in, at least, four numbers during the year, and, doubtless, oftener. Whenever sufficient material is ready a number of the journal will be issued. A volume of six to seven hundred pages will be published annually, with many plates and diagrams. Papers for publication may be sent to the editor, Dr. William H. Welch, 935 St. Paul street, Baltimore, or to any one of the associate editors in the department to which the paper belongs. The subscription price will be \$5.00 per volume. Subscriptions may be sent to the publishers, Messrs. D. Appleton & Co., New York, or to Mr. N. Murray, Johns Hopkins University, Baltimore.



## Medical Items.

WE are informed that the long-looked-for and much-overdue annual announcement of the College of Physicians and Surgeons, with Report of Proceedings, is off the press. We have not yet received a copy ; it has not yet been distributed. We wonder if the publishers will saddle the country with the cost of distributing the same ? If they try, what argument could be advanced ? Surely not as a supplement to a free distribution journal, one that is now being carried through the mails free, contrary to the postal laws ?

DR. W. A. PARKYN, of Chicago, was in Toronto during Christmas week.

THE Chicago College of Physicians and Surgeons will amalgamate with the University of Illinois.

PROFESSOR STRUTHERS has been elected president of the Royal College of Surgeons of Edinburgh.

DR. CHARLES W. PURDY, of Chicago, spent a few days in Toronto in the latter part of December.

DR. F. N. G. STARR, of Toronto, has removed from 394 Markham street to 471 College street, corner of Markham.

*The Medical News* has removed its home from Philadelphia to New York, and has been placed in the hands of a new editor—Dr. J. Riddle Goffe.

*The Medical Record* says the retirement of Dr. George M. Gould from the editorship of the *Medical News* is a great loss to medical journalism in America.

SIR JOSEPH LISTER has been elected president of the Royal Society in the place of Lord Kelvin. This is considered a very high honor by British scientists. Sir Benjamin Brodie is the only surgeon who has previously occupied this position.

IF they paid their bills, it would cost the people of the United States twenty-five million dollars a year to be born, three hundred million dollars per annum to be married, seventy-five million dollars annually to be buried, and nine hundred million dollars to get drunk.

DR. JOHN P. SHAW, who has been practising in East Toronto for nearly ten years, having decided to take an extended trip to New York and Great Britain, was invited by his fellow-citizens of "Little York" to attend a banquet in Warner's Hotel last month. The attendance was large, and the "boys" gave the doctor a good and kind send-off.

EMINENT SPECIALIST—Yes, madam, your husband is suffering from temporary aberration, due to overwork. The form of his mania is quite common.

Wife—Yes, he insists that he is a millionaire.

Eminent specialist—And wants to pay me \$500 for my advice. We'll have to humor him, you know.—*Collier's Weekly*.

DOCTORS ARE SOLDIERS.—A proper movement has been undertaken in France, where it is proposed to place the widows of medical men who die during an epidemic, while engaged in their professional duties, upon the same footing as widows of officers who die upon the battlefield, with the intention of obtaining for the one the same compensation as that provided for the other.—*Medical News*.

THE *American Medical Review*, edited by Dr. Daniel Lewis, president of the New York State Board of Health, and published by The R. N. Plummer Company, 106-108 Fulton street, New York, has issued its first number bearing date January, 1896. It is a beautiful specimen of magazine printing, and its contents bear the stamp of experienced editorial management. It is occupying a unique field in the medical literature, similar to that of the *Review of Reviews* in its relation to general literature. If this medical review of reviews keeps itself within its original limitations, it is certain to meet with the favor of the medical profession.

SURGEON-COLONEL W. TAYLOR, M.D., the principal medical officer of the South-Eastern Military District, delivered a lecture at Aldershot on "The Medico-Military Arrangements of the Japanese Army in the Field." The lecturer declared that the regimental medical organization of the Japanese army was far superior to our own. The medical arrangements for saving life on the battlefield were perfect, no expense being considered too great to save a Japanese soldier's life. The bravery of the medical department was astonishing; he himself had seen a stretcher-bearer company attending to their work in a perfect storm of bullets, and they had cleared a line of fire of eighty killed and wounded in about twenty minutes, having first rendered aid, and before sending the wounded back to the field hospitals in the rear. A discussion followed the lecture, in which Sir William Butler and many other officers took part, and all agreed that the British army had much to learn from the Japanese army.

TYPHOID IN RELATION TO DRINKING WATER.—The Indian authorities, who, according to an Indian correspondent, have introduced the Pasteur filters at Dum-Dum and are contemplating their introduction generally in cantonments with the view of prevention of typhoid, were, it is understood, much influenced by the testimony of the French Minister of War, General Zurlinden, that their use at the French stations has enormously diminished the typhoid mortality in the French army, in most instances practically removing it. A further striking proof of what pure water will do in the abolition of typhoid is furnished by the mortality returns for the Parisian suburb of St. Ouen. Three years ago, in 1892, the water supplied to this district was of distinctly question-

able quality, and during the twelve months there were recorded twenty-four deaths from typhoid fever, this, it is stated, being the average for the previous ten years. Proper arrangements for filtering the water being, however, established, deaths from typhoid fell to six in 1893, two in 1894, whilst during the year just ended only one death from this disease was recorded.—*British Medical Journal*.

ANTISEPTICS IN BEVERAGES.—A recent decision which Mr. de Rutzen gave in the case heard at the Westminster Police Court, London, Eng., is one of considerable importance, owing to the influence it must inevitably have on the administration of the Food and Drugs Act. It was shown that a British wine contained 26.6 grains per gallon of salicylic acid. It was stated in defence that the drug was used as a preservative, and in a quantity so small that it could not be injurious to health. Evidence to the effect that even in small doses the drug might be injurious was given by Dr. Corfield (the Medical Officer of Health), and Mr. Cassal (the Public Analyst) for St. George's. The magistrate, however, accepted the evidence to the contrary effect, and held that the addition was not injurious to health, and seemed to imply that such addition, if made in quantities designed merely to obtain an antiseptic action, and not to increase bulk or conceal inferior quality, would prevent conviction under the Act. We believe that Dr. Corfield, in saying that the long-continued use of small doses of this powerful drug may be injurious to health, has on his side the support of medical experience and opinion. The decision is greatly to be regretted in the interests of the public health, more especially as it offers a new excuse to vendors who may wish to add various drugs to their foods and beverages "for antiseptic purposes."—*British Medical Journal*.

THE ASHANTI EXPEDITION.—In the arrangements for medical supplies provision has been made for 35,000 cases of sickness. The term "cases of sickness" refers to daily returns, and embraces a man placed on the sick list for treatment one day and taken off the next. In the former Ashanti war there were eighty-one deaths from disease and loss in action, with 2,587 officers and men of the European force under Sir Garnet (now Lord) Wolseley. After leaving the country there was a mortality of 3 per cent. on the strength disembarked. Tents on this side of Prahsu, it is thought, will not be necessary, as huts can be utilized for housing the troops at the various rest camps. Beyond Prahsu *tentes d'abri* will, it is stated, probably be employed. The daily ration scale is set down as 1½ lb. each of fresh meat and bread or biscuit; if preserved meat is used, 1 lb.; preserved potatoes, 1 oz.; sugar, 3 oz.; tea, ½ oz.; cocoa paste, 1 oz.; dried onions or compressed vegetables, 1 oz.; salt, ½ oz.; pepper, 1-36 oz. In the matter of bread and meat, the scale is the same as in the last war, but the tea ration is ¼ oz. less, the cocoa paste being additional. Surgeon-Colonel Taylor, principal medical officer of the expeditionary force, has visited Aldershot and inspected the whole of the officers, non-commissioned officers, and men of the medical staff corps who are proceeding on service to the west coast of Africa. The bearer company drilled in good style. All ranks paraded in service uniform and equipments, and looked fit for the work they will be called on to perform. Among the stores



which the *Loanda* carried when she left Liverpool on Saturday, November 30th, for the Gold Coast, were a number of Pasteur filters for the provision of pure water for the troops. These filters had previously been tested by Surgeon-Colonel Taylor and Surgeon-Lieutenant Pratt, and a detachment of the men has been instructed in their method of working. They are capable of providing altogether 6,000 gallons of germ-free water daily. Filters of a similar kind are to be fitted to the hospital ship *Coromandel*.—*British Medical Journal*.

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MUSCÆ VOLITANTES.—Following the example of Dr. Gowers in the Bowman Lecture of the present year in studying one set of subjective visual sensations, Dr. George M. Gould, of Philadelphia, in a recent number of the *Medical News*, gives us a classification of muscæ volitantes, with a minute description of his own muscæ and of their behavior under varying physiological states of the eye, and then proceeds to deduce some laws governing the phenomena of muscæ, and their bearing on the economy of the eye. Muscæ are either peripheral, originating in the globe including the optic nerve, or central, originating in the cerebral centres, or a combination of the two. He suggests the use of the word "phoses" for light sensations of whatever kind or color of a positive nature, and "aphoses" for absence or interruption of light sensations, such as scotomata or shadows. Speaking of peripheraphoses, the subdivision under which ordinary muscæ volitantes come, the author concludes that the fluid in which these bodies float is contained in a chamber situated just behind the lens, which he calls the aquo-vitreous chamber; the constant downward movement of the muscæ, when seen subjectively, locates this chamber in front of the vertical equator of the eye. The aquo-vitreous chamber plays the important part in the nutrition of the eye of acting as a drainage chamber to the vitreous body for the excretion of the débris of vitreous katabolic change; the fluid contained in it also acts as a lubricant to the movements of accommodation in equalizing and distributing pressure. Further, the author thinks it not unreasonable to suppose that pathological conditions in the fluid may originate pathological conditions in the lens and disturbances in its nutrition, and may be an important factor in the etiology of cataract. Other pathological conditions of this chamber and its contents may lead to a clogging of the sieve of the lens ligament, and so act as the ultimate cause of glaucoma. Myotics like eserine and pilocarpin increase glandular, osmotic, and secretory activity, while mydriatics correspondingly lessen these processes; although an increase in the amount of aquo-vitreous fluid would seem to increase intraocular pressure, it would also lessen its viscosity, and reduce the clogging of the filtration membrane of the ligament, and consequently the intraocular tension. The author is of opinion that no one has given a satisfactory reason for the uncertain action of iridectomy in curing glaucoma; according to the theory here proposed removal of a portion of the iris only acts by increasing the porosity of the filtering membrane, but it is not suggested how this is brought about. The author admits that his theory has a very small basis of facts to support it. Before accepting it as a working hypothesis some anatomical proof of the existence of the aquo-vitreous chamber is required; with

modern histological methods by the making of frozen sections of recently excised eyes, or of eyes hardened in formol, such a chamber should be capable of easy demonstration if it exists. Further, by the researches of Priestley Smith and Treacher Collins, our knowledge of glaucoma has been so far advanced that we are able to explain some of the phenomena of the disease, such as the occasional failure of iridectomy, without recourse to a somewhat fanciful theory.—*British Medical Journal*.

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DR. JAMESON.—Nothing in the present crisis is more remarkable than that, through the general voice of national lamentation that has gone up about this miserable business in the Transvaal, the note of personal regard and even admiration for the man who has been the leader in it has made itself loudly heard. Hard things are being said of others ; of Dr. Jameson the bulk of his countrymen simply refuse to believe that his misguided action was prompted by any other thought than the wish to save those whom he deemed it his duty, at all risks, to rescue from what he considered to be a position of imminent and deadly peril. This tenderness for a man who in the eye of international law is a freebooter, and who has committed the kind of mistake which Napoleon described as worse than a crime, will easily be understood by those who knew him before he had any thought of forsaking the peaceful career of medicine to follow in the footsteps of Cortes and Pizarro. As several more or less inaccurate accounts of Dr. Jameson's early career have appeared in the general press, the following particulars may not be without interest. He is now just 43 years of age. Though Scotch by birth, as far as his medical education is concerned he belongs wholly to University College. He entered that school in 1870, became a Member of the Royal College of Surgeons in 1875, and graduated as M.B. and B.S. in the University of London in the same year. He took the degree of Doctor of Medicine in 1877. His career as a student was a distinguished one, and he held the posts of house-surgeon under the late Professor John Marshall, and of house-physician under Sir Russell Reynolds. He was afterwards appointed Resident Medical Officer to University College Hospital, but his period of office was interrupted by a voyage of some months to the United States, where he went in charge of a patient, and was cut short by the fact of a good opening for practice presenting itself at Kimberley. As an example of his energy of character, it may be mentioned that within a day or two of the offer reaching him he began to prepare himself for his new life by taking riding lessons at the Albany Street Barracks. His subsequent career is known of all men. As a young man Dr. Jameson gave evidence of the same personal magnetism which has so endeared him to all sorts and conditions of men. To his intimates among his fellow-students he was "Jimmy," as he is now "Dr. Jim" all over South Africa. He was a man of the most generous instincts. If impulsive, there was nothing ignoble about him. There was no taint of selfishness in his nature, and he was simply incapable of anything like meanness or deceit. No one who knew Jameson, as men know each other in the unrestrained intimacy of fellow-studentship, could for a moment believe that he would consciously have lent himself to any act of treachery or dis-

loyalty. His professional brethren are still proud of him, and assuredly will not condemn him unheard.—*British Medical Journal*.

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## OBITUARY.

KENNETH N. FENWICK, M.A., M.D., M.R.C.S. ENG.—Dr. Kenneth Fenwick, of Kingston, is dead. It was this simple item of news in the morning daily papers of Canada, this 22nd day of January, which caused a sad shock to the medical profession of our Dominion. The circumstances surrounding his illness and death were exceedingly sad. A young, strong, able, active surgeon succumbs to a foe that he has been nobly fighting for many years—septicæmia. Dr. Fenwick operated on a child suffering from septic peritonitis, Thursday, January 16, and, unfortunately, cut his finger slightly during the operation. Certain precautions were taken to prevent evil results, and no fears were entertained until the evening of the 20th, when the condition of the hand and arm was found to be very serious. The symptoms became worse from hour to hour, the arm became gangrenous, the whole system was profoundly affected by the virulent strength of the poison, and the patient sank rapidly until the night of the 21st, when he died at 11 o'clock.

Dr. Fenwick was a specimen of our best sort of Canadian physicians, a prodigious worker, a skilful obstetrician and gynæcologist, a good general practitioner, a faithful and generous friend to the sick and afflicted, a man that this province could ill afford to lose. He received his degree of M.A. from Queen's University in 1871, M.D. in 1874, and passed the examination for membership of the Royal College of Surgeons in 1875. After returning from England he commenced practice in Kingston, and soon forged to the front. He was for a time Professor of Institutes of Medicine in the Royal College of Physicians and Surgeons of Kingston; but some years ago was appointed Professor of Obstetrics and Gynæcology in the same institution. His work in this department was highly creditable to himself, and greatly appreciated by his students.

To the profession at large he was known as a public-spirited man, and an active worker in medical societies, especially the Canadian and Ontario Medical Associations. It will be remembered that he took a deep interest in the last meeting of the Canadian Medical Association, held in Kingston, August, 1895, and did much work in making the necessary arrangements. His tremendous zeal and energy did much towards making the meeting a pronounced success. He was the author of an excellent manual of obstetrics, gynæcology, and pædiatrics, which was published in 1889. This, as he told us in his preface, was really a syllabus of his sessional lectures, and intended for medical students—especially his own class. He also published many papers in Canadian and American medical journals. By his death our profession has lost one of her most worthy sons, and our country has lost one of her best citizens.



DR. DANIEL E. BROOKE.—Dr. Brooke was found dead in a room in Windsor, December 28, 1895. He graduated in 1879, and practised in New Hamburg for ten years. About six years ago he went to Windsor, and soon acquired a large and lucrative practice. The remains were buried in Chatham, where his parents and sisters reside.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### PUERPERAL ECLAMPSIA.\*

By H. CRAWFORD SCADDING, M.D., C.M.,

TORONTO, ONT.

THE notes of two cases of post-partum puerperal eclampsia form the subject of a few remarks which I desire to make this evening.

CASE I. Mrs. E., aged twenty-three years; confined on January 23, 1895. A small growth upon the roof of the mouth had been removed under chloroform in the fifth month of pregnancy. At the time of confinement her general appearance was remarkably anæmic. The delivery was accomplished quite naturally; no post-partum hæmorrhage. About an hour and a half after the expulsion of the placenta she was seized with a severe fit. Unfortunately, I did not observe the seizure, having left the house some few minutes, but, upon returning immediately, found her quiet and hardly conscious; pupils dilated, but conjunctival reflex present. A hypodermic injection of morphia, three-eighths of a grain, was at once given, and, later, one-quarter grain doses of calomel every half hour until

\* Read before the Toronto Medical Society, Thursday, January 30, 1896.

the bowels moved. There was no return of the fit. Magnesium sulphate and iron were ordered ; a strict milk diet was prescribed, no butcher's meat being allowed for some weeks after delivery. Examination of the urine about the fifth month revealed no albumen, but the following was the report subsequent to the confinement :

*Clinical urinary examination.* Mrs. E., January 24, 1895; amber color ; acid reaction ; specific gravity, 1021 ; color of sediment, gray ; quantity of sediment, moderate ; albumen, about half by volume ; some mucus ; squamous epithelium ; blood cells abundant ; hyaline casts.

The albumen very gradually disappeared under appropriate treatment, diet, etc., until October 1, 1895, when the urine was found to be quite normal, and the pallid, swollen countenance had given place to a healthy color and appearance.

CASE 2. Mrs. M., confined November 3, 1895, had had persistent and distressing vomiting early in the pregnancy, which was finally relieved by stretching the cervix and applying nitrate of silver (twenty grains to the ounce). The urine examined early in April showed no trace of albumen. Labor lasted seven or eight hours, severe vomiting occurring while the cervix was beginning to dilate. Chloroform was given to the obstetrical extent during the latter part of the second stage. Before the placenta was expelled, and about fifteen minutes after the birth of the child, the patient complained of severe headache, and almost immediately there began twitching of the left side of the face, the head being turned to the left, and a general convulsion following, first tonic and then clonic muscular contractions, with deep cyanosis of the face. The placenta was not spontaneously expelled. There was slight return to consciousness after the first fit, and complaint of headache repeated. The afterbirth was then expressed. A second and a third convulsion followed within thirty minutes, the last being more severe than the first or second ; consciousness not returning between the second and third, and not until about two and a half hours after the third. While attention was given to the administration of morphia, etc., and attempts made to chloroform before the onset of the second and third seizures, the uterus was neglected, and some time after the third fit it was noticed that this organ was much distended with blood and clots, which were expressed, and the uterus remained well contracted thereafter. One-half grain of morphia was given by rectum when the seizure recurred. One-quarter of a grain hypodermatically and a quarter of a grain by the mouth when consciousness returned after the third seizure, and a quarter of a grain in about three hours following this ; so that one and a quarter grains were given within the six hours following delivery, one-half grain of which was given by the rectum. The pupils were much dilated, and the conjunctival reflex was



absent for some time after the second and third seizures. Eight ounces of urine drawn by catheter immediately after the third fit contained a small quantity of albumen (about one-tenth per cent. approximately), and the following are the reports subsequently :

*Clinical urinary examination.* Specimen No. 1. Passed eight hours after labor ; color, light clear yellow ; reaction, markedly acid ; specific gravity, 1010 ; color and quantity of sediment, grayish red, moderate ; albumen, about one-tenth per cent. ; urea, five and a quarter grains to ounce ; amorph. urates present ; mucus and pus, some mucus and a few pus cells ; epithelium, squamous and débris ; blood, numerous cells ; casts, not found.

Specimen No. 2. Passed thirty-four hours after labor ; color, clear amber ; reaction, markedly acid ; specific gravity, 1020 ; color and quantity of sediment, pink, abundant ; albumen, absent ; urea, eight and a half grains to ounce ; amorph. urates, very abundant ; mucus and pus, some mucus and scattered pus cells ; epithelium, squamous and débris ; blood, absent ; casts, not found.

It would have been a satisfaction in both cases had the urine been examined just before labor.

I have asked myself the following questions :

1. Is the failure of the kidney to perform elimination the sole cause of eclamptic seizure?
2. What rôle does the liver play in the production of eclampsia?
3. May the condition of the blood be the cause?
4. Is there another function of the kidney the impairment of which leads to eclampsia.
5. Is the increase of blood pressure the primary cause?

(1) I have concluded that in one class of cases the impoverished condition of the blood is the cause, and in the other class increase of blood pressure is the primary etiological factor in the causation of eclampsia. The convulsions are commonly called uræmic, but it was proved as long ago as 1860, by Richter, that the injection of a saturated solution of urea in animals produced no convulsions at all. Brown-Séquard and D'Arsonval found that normal urine filtered and rendered sterile under high pressure by carbonic acid could be injected with impunity into the veins of animals. The largest injection which it was possible to give without noticeable effect was 110 grammes per kilogramme of the animal, an exceedingly large amount, when, according to Bouchard, ninety grammes of water per kilogramme begins to produce noticeable effect, and 122 grammes causes death. The slowness of injection (one or two hours) in these experiments permitted, by an abundant diuresis, the rapid evacuation of urinary principles considered as toxic.

(2) Massin declares that carbon-dioxide is the special poison giving rise to eclampsia ; that the injection of  $\text{CO}_2$  causes in animals symptoms comparable to those of eclampsia ; that carbon-dioxide results from impaired liver function, whereby nitrogenous substances are incompletely oxidized. But, further, though enormous quantities of incompletely oxidized substances circulate in the blood towards the end of gestation, eclampsia will not be produced unless the psychical equilibrium is disturbed. The nitrogenous end-products of the liver are urea and urates, and when the latter are excreted by the kidney in great abundance, and the former in greatly lessened quantity, a disturbance of the liver is indicated. Three-quarters of the blood of the liver is venous. Is it possible that the chief function of this organ is the oxidation of nitrogenous substances? If eclampsia were due to  $\text{CO}_2$ , why would it not occur more frequently, and in such cases as asthma and advanced phthisis?

(3) Traube's theory that the tenuity of the blood may be productive of convulsions is interesting. He held that the watery condition of the blood predisposes to interstitial transudations—that the hypertrophy of the left ventricle much increases the lateral pressure in the arterial system, and serious transudation takes place through the cerebral capillaries and gives rise to oedema of the brain. This oedema causes compression of the minute cerebral vessels and determines an anæmic state of the brain, and thereby convulsions when the central ganglia are affected.

(4) It is known that other glands of the body have an internal secretion ; that such secretion by the pancreas prevents a form of diabetes ; that the internal secretion of the thyroid controls the deposition of mucin in the tissues. Is it not possible, nay, even probable, that the kidney secretes something that guards the nervous system against the attack of some toxic substance which is secreted by a healthy kidney? Brown-Séquard and D'Arsonval,\* working separately, found that after extirpation of the kidney in guinea pigs and rabbits, those that were subjected to injections of kidney juice (extracted from the parenchyma of the kidney) survived two or more days longer than those which had received no injection ; and, furthermore, that uræmic symptoms were slower to manifest themselves in those animals that had received the injection. Meyer† proposed the grafting of kidney substance where the internal secreting function was impaired and destroyed. He said this experiment had been tried and proved successful. Fowler, in the *Medical Record* for May 13, 1893, draws attention to a work entitled "Suppression of Urine," wherein is contained the description and analyses of ninety-three cases of anuria, varying in duration from three to sixty days, necropsies being made in more than half the number. Of the ninety-three, only nineteen presented

\*Comptes rendus de l'Acad. des Sciences, 1892, term. 114, p. 400.

†Archives de Physiol., vol. v., page 761.

uræmic symptoms, and three of these only after the flow of water had been fully re-established. Recovery followed after anuria lasting twenty-one, twenty-five, and twenty-eight days. These cases probably fall into the third class of Brown-Séquard\*, the first being those in which the internal and external secretion is absent. The second internal secretion is impaired, and the external existing, though less complete. In the third the external alone is wanting, and the internal persisting entirely. Brown-Séquard arrives at the following conclusions:

(1) The consideration of cases of anuria of long duration without morbid manifestations, and of cases of disappearance of symptoms after nephrectomy under the influence of kidney juice injections, shows that the kidney possesses a most important internal secretion.

(4) The comparative study of anuria and uræmia in cases observed by D'Arsonval, Brown-Séquard, and confirmed by Meyer, renders it extremely probable that the phenomena of uræmia are due chiefly to the absence of internal secretion, and not, as one might suppose, to the alteration of the urinary secretions and the consecutive accumulation of certain toxic principles in the blood.

(3) Dr. Utley, in the *American Journal of Obstetrics* for September, 1895, says: "On the basis that the efforts of a parturient woman are conducive to a correspondingly increased general blood pressure—which efforts are, of course, greatest during the second stage—and with a view to studying the relation of heightened blood pressure to the presence of albumen in the urine, I have, in twenty-four women, examined a specimen of urine obtained just at the beginning of labor, one at the end of the first stage, and one at the conclusion of labor. In sixty per cent. of those whose urine showed not a trace of albumen before labor, or in some instances at the end of the first stage, I found it to be present after labor in greater or less amount, depending on the length of the second stage. These albuminurias are, of course, transient, disappearing in two to four hours. In those in which none was found the labor was accomplished with a minimum degree of effort. Then, again, in eight cases in which urine was albuminous before labor, without explanatory organic kidney lesion, and possibly due to high blood pressure, the amount of albumen was found to be increased after the completion of the labor, the increase being relative also to the length and severity of the second stage. In a few hours the albumen had entirely disappeared, the conditions favoring high blood pressure having been removed."

CASE I. While, in this case, the mechanical interference with the venous circulation may have been a factor in the production of the disorder of the kidney, there are some valid objections to this as the cause of albuminuria. There was marked anæmia. The amount of albumen was

\*Archives de Physiol., vol. v.; p. 778.



very large. There was oedema of the face and legs. There was no particular difficulty in the second stage. These facts incline me to the belief that there existed, for some time previous to the labor, abundant excretion of albumen and diminished excretion of urea, and probably kidney lesion, due to the impoverished blood condition commonly associated with gestation.

CASE 2. There was apparent perfect health for some weeks before labor. There was very slight oedema of the feet—not more than could readily be accounted for by the slight obstruction to the return venous blood. There was a very slight amount of albumen in the urine by catheter directly after labor. It is probable that, in all cases of normal labor, if the second stage is accompanied by other than the minimum degree of effort, albumen will be found in the urine directly after labor, but will disappear a few hours thereafter. The consideration of these circumstances leads me to think that the kidney function was not impaired up to the time of commencement of labor.

While in Case 1 I believe the impairment of kidney function was due to an impoverished condition of the blood, in Case 2 I believe it to have been disturbed by acute congestion of the kidney. Though morphia was given in both cases, I am not satisfied that the good results were due to its influence. In the first case the bowels were moved very freely and very soon, and the kidney function responded promptly, calomel, magnesium sulphate, iron, and large draughts of soda water being administered. In the second case a large amount of blood was lost, which, I am inclined to think, was largely instrumental in bringing about a happy termination of speedy recovery.

Is it not possible, in such cases, that the increased blood pressure, even during the second stage of labor, may so cripple the internal secretion of the kidney that the barrier which protects the nervous system falls, and the citadel is stormed, and sometimes taken, by an invading army of toxins? Assuming that eclampsia is due to an impairment of the internal secretion of the kidney, and that such a condition may be produced by opposite causes, anæmia and acute congestion, our treatment would naturally be, on the one hand, to improve the condition of the blood, while we endeavor to carry off by the skin, by the bowels, and external secretion of the kidney, the principles of the urine which are only toxic when the internal secretion is in abeyance. On the other hand, will not the lancet, or veratrum viride, restore the internal secretion by relieving a congested kidney? In conclusion, may I venture to suggest, as a prophylactic measure against eclampsia in the pregnant, where kidney disease is known to exist—as a temporizing measure while labor is being artificially produced, eclampsia having threatened or appeared, as a substitute for the disabled internal kidney secretion in intra- and post partum eclampsia—the injection of a suitable extract of the kidney of the sheep?

## A CASE OF BRONCHIECTASIS.\*

BY F. N. G. STARR, M.B. (TOR.),

Senior Assistant Demonstrator of Anatomy, Toronto University; Assistant Surgeon, Victoria Hospital for Sick Children.

**M**R. PRESIDENT AND GENTLEMEN,—The patient, a female, aged twenty-four years, from a western town, came under my observation on June 20, 1895. She complained of cough and expectoration, both of which were worse in the morning.

Six years ago she had an illness which was called typhoid fever. More than five years ago—in fact, during convalescence from the fever—the cough commenced. In the winter of 1893-94 she had influenza; in addition to these, the patient has had several attacks of “congestion of the lungs.”

There is no pain unless she takes cold, and then it is worse in the left infra-clavicular region. There is no wasting; in fact, she is rather fleshy than otherwise, though her color is pasty. The fingers are markedly clubbed. Then, as to the cough of which she complained: commencing some time before she rises, and lasting until nearly noon, she coughs more or less continuously, and every little while she will evacuate large quantities of material which is very offensive. During my conversation with her she gave a little hacking cough, and evacuated a muco-purulent material to the extent of about half a cupful. This was horribly offensive, and flowed from the mouth with little or no effort. She tells me that sometimes she vomits as a result of the “stinking taste” in her mouth after one of these attacks.

Upon examination of the chest I found impaired resonance over the front of the right side, as far down as the fourth interspace. There was divided breathing, and an occasional sibilant rhoncus. On the left side there was divided breathing. The apex beat was displaced perhaps half an inch outward. Behind, on both sides, from about the level of the fifth rib downward, there was what might be called subcrepitant râles. The inspiration was high-pitched, but the breathing was not bronchial in

\* Read before Toronto Medical Society.

character. On the right side, from the seventh interspace downward, there was absolute flatness, which became continuous with the liver dullness. Opposite the ninth dorsal spine, and close to the vertebral column, there was loud, cavernous breathing. The area over which this could be heard was not larger, I think, than a half-dollar, but it was very marked.

On the left side, from the seventh space downward, there was dullness on percussion, and the breathing was somewhat bronchial in character. (Fig. 1.)

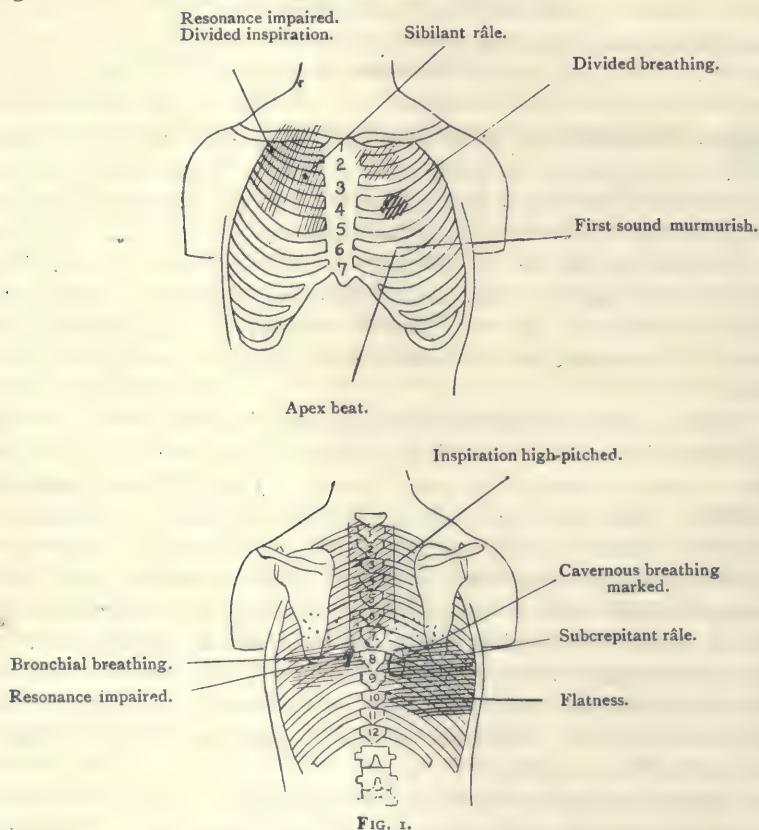


FIG. 1.

In September I had the patient admitted to the General Hospital, under the care of Dr. McPhedran. The area over which the cavernous breathing could be heard had increased (see Fig. 2), and on September 30 the chest was aspirated, as indicated in Fig. 2. No fluid could be discovered, but the needle seemed to be in a cavity, for the point would move freely, and, upon passing it in more deeply, it would seem to catch



upon a rough surface when attempts at movement were made. The following day no cavernous or, in fact, any other kind of breathing could be heard over the affected area. She had expectorated but little since the preceding day. The cavity was probably filled, and would allow no air to enter.

On October 2, Dr. Cameron made a vertical incision (see Fig. 3) over the tenth and eleventh ribs and their spaces, three inches to the right of the vertebral spines. The incision was made low down, lest the condition should prove to be an empyema, for then one could get free drainage. The intercostal muscles were very thin, and the finger passed through the tenth space without difficulty. With the finger directed downward, one could feel the diaphragm with the liver below it; directed upward, one could feel the lung perfectly free in the pleural cavity. There were adhesions between the middle and lower lobes. The lung had retracted

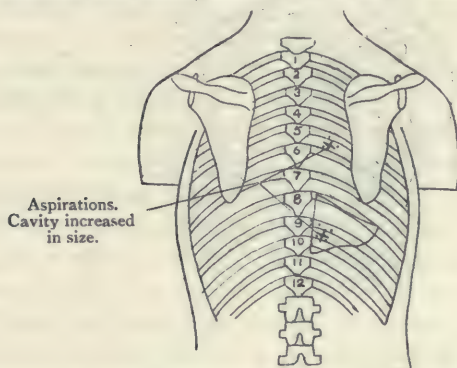


FIG. 2.

considerably, probably owing to the greater air pressure from without. The parietal pleura was not even thickened at the point entered; perhaps the visceral was. Just below the fissure there appeared to be a consolidated area, but no cavity could be felt with the finger, or discovered by two attempts with the aspirating needle in the lung tissue.

This was certainly disappointing, for it was thought that an exploration would clear up all doubt, whereas it only seemed to increase the already difficult puzzle.

The patient made a perfectly good recovery from the operation, but got no relief from her symptoms.

On October 31 an incision, one inch in length, was made over the ninth space, posteriorly, three or four inches from the median line, and an aspirating needle passed into the lung tissue. When directed downward, forward, and inward, it seemed to enter a cavity; air escaped through the cannula, while one could move it freely up and down and from side

to side, the point seeming to be unobstructed. Upon inserting the canula still further the point seemed, upon movement, to catch upon a rough, uneven surface. No fluid escaped through the needle. An examination of the contents of the needle, microscopically, revealed only blood cells.

The condition certainly was not a localized empyema, neither was it a tubercular cavity originating in the base of the lung ; for repeated examinations of the sputa revealed no bacilli. Was it not, then, likely to be a greatly diseased bronchus, or even several smaller bronchi connected with a larger one, with some consolidated tissue around them, causing the ready transmission of the cavernous note to the surface. It is said that in bronchiectasis the lung tissue between the affected tubes is not consolidated.

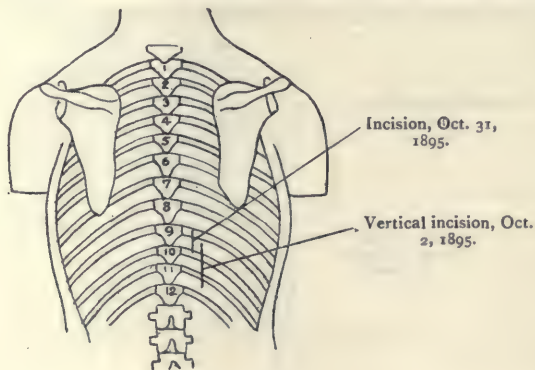


FIG. 3.

If a dilated bronchus, was it cylindric or saccular ? It would seem to me more likely the latter, owing to the fact that the cavity was sometimes so completely filled with muco-purulent material that no air could enter.

It was a question as to whether it would not be good treatment to bring the parietal and visceral pleura together, and at a subsequent operation open into the cavity and allow it to drain. It was thought advisable to try some other means first, and she was sent home, with instructions that when the cough commenced she should try the knee-chest position, and thus endeavor to facilitate the evacuation of the cavity. In addition to this she is taking creasote and cod-liver oil, and is using inhalations of oil of peppermint, with a view to overcome the offensive character of the contents of the cavity.

## A CASE OF EPILEPTIC MELANCHOLIA—FOREIGN BODIES FOUND IN HEART AND LUNG AT POST-MORTEM.

By J. M. FORSTER, M.D.,  
Assistant Superintendent Rockwood Hospital,  
KINGSTON, ONT.

**I** W., æt. 32, married, laborer's wife, of active habits. She had several attacks of insanity for four years previous to her admission. Her mother and grandmother were insane, the latter was also subject to epileptic seizures. Her insanity was due to epilepsy. This came on after the birth of her one and only child. Before her admission she made several attempts on her own life, on one of these occasions opening two large veins in her arm with a piece of broken bottle and a pair of scissors.

Admitted to Rockwood Hospital, August 23, 1889. She came under my notice in November, 1894. For information before this date I am indebted to the medical superintendent and nurses in charge.

This patient was the victim of the most desperate of suicidal impulses. When she was under this impulse she used to say that "she would be better off out of this world, and that no one cared for her." At times she was pretty well, and occupied her time in sewing or knitting. During such periods her epileptic seizures would recur regularly, mostly at night. Then she would go for a few days without having a fit, when her mind would again become affected. She was then sullen and irritable, threw things about, and was in a constant state of unrest. She refused to speak, and if spoken to or interfered with she became very violent, viciously attacking the nurses. This was the signal for the closest watchfulness over her day and night to avert her committing suicide.

As soon as a fit occurred she would be relieved of all these symptoms. This is quite unusual in my experience, though not uncommon. According to Gowers, "it is common for patients to say that they feel better when they are having fits than when they are not."

D. Hack Tuke writes: "Occasionally a fit seems to act as a nerve storm to clear the mental atmosphere."

Her whole history while here was one of suicidal attempts, which were shown by the scars on her arms and forearms. I shall quote two of the most noteworthy.



June 17, 1893, at 9 p.m., she was discovered with the bedclothes drawn up closely around her neck. Upon removing these she was found to be lying almost in a pool of blood. She had opened a large vein in her arm by repeatedly picking it with a needle or pin. She was quite faint from the loss of blood. Her recovery was very slow and gradual. She remained for more than a week confined to her bed, and is described by the nurse as looking for days almost lifeless. (This is the only occasion on which her recovery was delayed or tedious, and it seems to me the most probable one for her inserting the needles found in her lung and heart afterwards at the post-mortem.) Every kind of search was made for the weapon with which she did this, but it could not be then found.

June 10, 1894. She was so violently excited this morning that she had to be left in her room. The head nurse left her to go to breakfast, warning her assistant to carefully watch I.W. She was called away to answer the door-bell. In a moment the patient had barricaded her door by placing her bed against it. This was soon shoved open, and when the nurse entered she discovered her patient lying peacefully in bed with her hands folded on her breast. A large cut had been made into her wrist, an opening made in a vein at the elbow of the left arm with a piece of glass, and a darning needle was sticking into her chest in the third or fourth intercostal space to the left of the sternum. This needle was three or four inches long, and about an inch of the eye portion remained outside of the chest. This was pulled out and other wounds dressed.

She was in a very weak condition from loss of blood, being almost pulseless. Stimulants soon revived her, and her recovery was rapid. No other marks on her chest at this time.

Jan. 17, 1895. Attempted to strangle herself.

May 28, 1895. She was trephined by Dr. Webster, who removed a portion of the brain convolution, corresponding to the nervous supply of part of local origin of convulsions.

June 10, 1895. She made an excellent recovery from the operation, and came under my charge again to-day.

Nov. 7, 1895. She has been failing bodily for the last month, and has well-marked symptoms of phthisis.

Her sputum showed the tubercle bacilli shortly afterwards when a specimen could be obtained.

There was nothing eventful in her subsequent history. She was greatly relieved of her distressing mental symptoms by the operation. The phthisis ran a somewhat rapid course, and she died January 10, 1896, from this.

*Post-mortem.* I. W., died 3.30 a.m., and the post-mortem was made 2.30 p.m., eleven hours after death.

*Heart.* In the pericardial sac there was an excessive amount of

serous fluid, four or five ounces, but no pericardial adhesions. The heart weighed nine ounces. The auricles were distended with both ante-mortem and post-mortem clots. Upon removing these from the left auricle something sharp was felt near its appendix, which proved to be a needle.



FIG. 1.—Heart ; the left ventricle and auricle opened.

On exposing this, by cutting down on it, it was found embedded in the wall of the left ventricle, close to the anterior interventricular groove or septum. The needle pointed upwards, leaving the left ventricular wall just anterior to the aortic valve. Then it penetrated the wall of the left auricle at the margin of the appendix auriculæ. The pointed portion of the needle then extended across the opening into the appendix.

The point was just touching the opposite wall of the auricle, where a little papilla of vegetations was set up by the irritation of the point of needle. This papilla was one-quarter of an inch long, and, at its base, about three-sixteenths of an inch in diameter. It is shown in the photograph just to the left of the point of needle. In the ventricle the needle penetrated the heart muscle immediately behind the coronary artery on its way to the anterior interventricular groove, three-quarters of an inch from the origin of this artery. The needle was firmly embedded in the tissue, so that it could not be pulled out without using considerable force.

The needle was one and five-eighths of an inch long, and distributed thus: Five-eighths in the ventricular wall, three-eighths in the auricular wall, and five-eighths free in the cavity of the left auricle. It was black in color, and its surface quite smooth.



Nothing abnormal about the other parts of the heart.

*Lungs.* The left pleura was firmly adherent throughout. The superior lobe of left lung was a mass of tubercular nodules and some small cavities. The inferior lobe presented another feature of interest in the presence of a broken knitting needle.

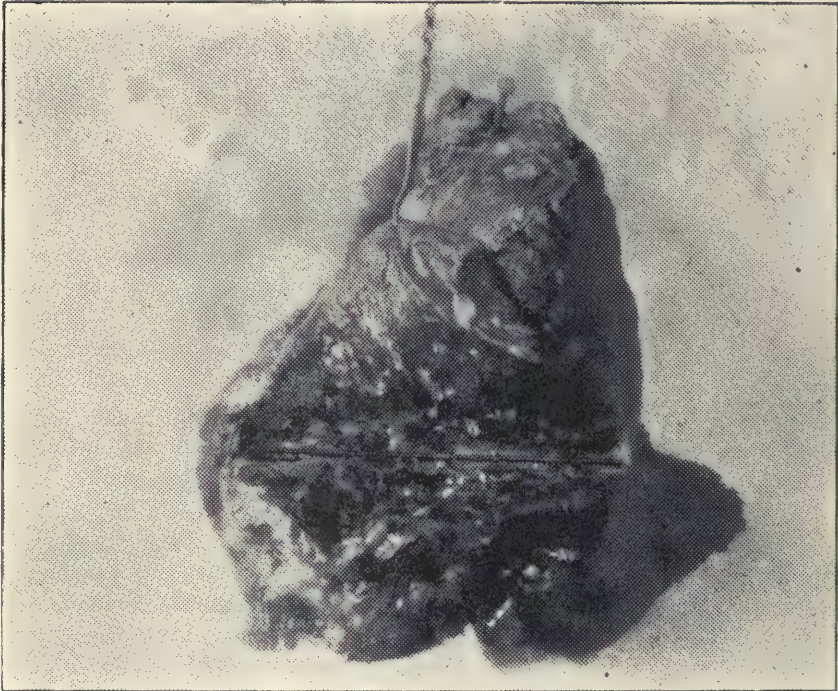


FIG. 2.--Inferior lobe of left lung ; needle exposed.

There was an old cicatrix in the skin to the left of margin of the sternum. This was the only cicatrix we could find on the chest. We take this as the probable point of entrance. The needle, pointing downwards, entered the lung at the anterior border of the inferior lobe about two inches from the lower margin, passing downwards, backwards, and slightly outwards, reaching the outer surface of the lung at a point about four inches from its posterior border and two inches above the circumference of the base. It narrowly escaped wounding the pericardium and heart. The needle was four and five eighths of an inch long, the broken end being slightly bent, and the other end pointed and sharp.

The needle was completely encysted. Neither point emerged before



the manipulation of the lung in its removal. It was quite black, and was not in any way corroded.

Right pleura firmly adherent in places. A cavity, about the size of a hen's egg, was present in the apex of right superior lobe, and a second smaller one in the middle lobe. Tubercular infiltration throughout the substance of most of this lung.

There are many instances of like injuries recorded, but it was very surprising to us to find these needles at the post-mortem. The patient showed no symptom of distress by their presence. She passed careful examination of the heart before she was trephined by Dr. Webster, stood the operation well, and made an excellent and rapid recovery. There is no doubt about these foreign bodies being present for a long time. Since the operation in May last she has been comparatively free from her suicidal impulses, and I do not conceive it possible for her to wound the heart and lungs as these needles did without showing some such symptoms as in the two suicidal attempts in June, 1893, and in the same month 1894. It appears probable that it was at either of these times that the foreign bodies referred to above were inserted, unless she succeeded in introducing these before her admission to Rockwood.

My sincere thanks are due to Dr. Clark for photographing the specimens and sketching the heart, and to Dr. Webster, who made the post-mortem.

## Selected Articles.

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### VAGINAL VERSUS ABDOMINAL SECTION IN DISEASES OF THE FEMALE PELVIC ORGANS.\*

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THE rapid evolution of the surgery of the female pelvic organs is one of the great things of this part of our century. Question succeeded question in quick succession until many felt that the end had been reached, and all that remained was the task of perfecting what had been developed. Hardly had we settled down in complacent contemplation of our results with the Trendelenburg posture when we were rudely shaken by this cry of the "vaginal method." Turn from it as often as we may; it yet sings in our ears, and will not be silenced. Intrench ourselves behind a resolution to see in it nothing of good for our patients; view it as a new hobby upon which those of shallow judgment are riding to notoriety, not to honest repute; decry it in all and every way, and it will not down. This is proven by the experience of the past year in this country alone, not to mention what has occurred abroad.

We are to be congratulated that such has been the result of the agitation, for it shows the virility of the subject, and proves that there is a great deal in it for our consideration. As a matter of fact, it is probably the last great question in the surgery of the female pelvis, and deserves to be treated as such by our best men.

Vaginal section has already been injured by exaggerated claims in its behalf. It is folly to talk of driving abdominal section from the field with it, for the reason that conditions will always occur which can be so much better met by the former that no good surgeon would decline to employ it. I think also that the vaginal section will always serve as subordinate to the abdominal, even though it diminish the frequency of the latter one-

\*Read at the general meeting of the New York Academy of Medicine, Dec. 29, 1895.

half or two-thirds. This belief is based upon the acknowledgment that abdominal section must sometimes be used, to complete the work begun through the vagina. In other words, there are cases supposedly entirely amenable to vaginal section, but which demand, as the operation proceeds, a better operative field, which can only be had by combined section. This single admission shows the interdependence of the methods, and suggests that wherever the boundary between them be drawn it must be made movable ; nothing hard and fast can be tolerated.

It is interesting to recall that vaginal section not so long ago held the vantage ground in this territory, and was driven out, except in the case of carcinoma, because of its poor results. This was due to its faulty technique in part, and in part to a lack of familiarity with the actual condition which could be present with a diseased uterus and appendages. Through abdominal section it has now informed itself and perfected its technique, and again comes forward for recognition.

Our attitude in this contention can be best expressed by assuming one hundred as the total of all cases of disease in question now recognized as suitable for section. One year ago I thought this could be divided equally between the vaginal and the abdominal. I now think seventy-five can be assigned to vaginal section, leaving twenty-five to be treated by the abdominal.

Beginning this work at Bellevue Hospital in February, 1892, we have now performed seventy-two vaginal sections, with three deaths, covering every species of disorder for which it has been advocated.

With this understood, we now submit a statement of conditions favorable, on the one hand, to vaginal section, and, on the other, to abdominal section.

*Exploratory incisions.* There are certain obscure conditions of the appendages of the uterus and sigmoid flexure in which exploratory abdominal section has become a recognized operation. Accurate vaginal and rectal bimanual palpation under ether is insufficient to discover enough gross lesions to account for symptoms. Direct palpation or inspection is needed for diagnosis. For instance :

CASE I. A young married woman, the victim of constant pelvic pain and dysmenorrhœa, came to the writer for operation, having been told by competent authority that nothing short of removal of the ovaries would effect a cure. The pain was referred to the region of the left appendages. Examination without ether revealed what appeared to be a thickening of the tissue at the base of the left broad ligament, the region being very tender. Under ether the thickening was less marked, but there appeared a sufficient contrast with the same region upon the right to leave the diagnosis in doubt, especially in view of the constant, long-continued



complaint of pain. A free incision was made into the cul-de-sac. A careful and thorough palpation of all the structures in the pelvis was made with two fingers, and nothing abnormal could be found. The appendages were drawn into the vagina, and inspection, as well as palpation, showed that they were normal. The patient was up in a week, and, as so often happens after an exploratory incision in such cases, was cured by the operation.

Or take another instance (Case 2). Following curettage and trachelorrhaphy, an inflammatory mass developed in the outer upper region of the right broad ligament. Supposing it to be salpingitis plus ovaritis, the cul-de-sac was opened with a view to removal or evacuation. To our surprise, tube, ovary, and surrounding peritoneal area were normal. But as the swelling was all the more evident, it was carefully palpated with a view to operation. The uterus was drawn down by volsella, and two fingers were swept over the entire pelvis—first over the posterior surface of uterus, then the anterior, then along the upper border of the broad ligaments, then down into the paravesical fossæ, thence over the bladder, the anterior pelvic, and, lastly, the posterior pelvic walls. The following abnormality was in this way mapped out. The outer upper region of the right broad ligament, including its line of connection with the pelvic wall, contained a hard mass; between it and the uterus was a distinct sulcus, in which the tissue, though thickened, appeared in fair condition. To the front, the right paravesical fossa was well-nigh obliterated, the outline of the linea terminalis, from the attachment of the broad ligament forward to near the symphysis, was obscured, all by soft swollen tissue, which evidently was nothing more than a collection of pus connected with and springing from the mass in the broad ligament. We were now at liberty to select an exit for the pus. This could be had in two ways: A direct incision above Poupart's ligament, turning up the peritoneum, reaching the pus about the pectineal eminence. Another route, and the one selected, was directly from the vagina. The cul-de-sac was closed; then, in order to reach the pus, and, at the same time, avoid the ureter, an opening was made as in anterior colpotomy; this was extended beneath the peritoneum, upward and outward, to the region of induration, whence the pus thus freely escaped.

*Displacements fixed by adhesions.* From several cases we select one (Case 3) in which the uterus was retroverted, ovaries prolapsed, and both, with the tubes, were bound down by firm and old adhesions. For two years prior to operation the patient had been subjected to vaginal tamponade, for the purpose, as was said, of stretching the adhesions, so as to permit the uterus and appendages to be raised by a pessary. The folly of this policy was never better illustrated, for the organs remained, as they

always do, in the abnormal position. Free incision of the cul-de-sac gave easy access to the structures. These were readily stripped of their adhesions, and then, by means of Alexander's operation, they were permanently placed in proper position. Easy and speedy recovery marked this case.

*Ovarian tumors.* All such tumors small enough to be contained, wholly or in large part, in the pelvic cavity should be removed by vaginal section. Tumors large enough to reach beyond the umbilicus, especially if they are pedunculated and are wholly outside the true pelvis, can be best treated by abdominal section. This observation applies with greatest force to multilocular colloid growths, but even then it is susceptible of modification in favor of vaginal section, if it can be shown that both ovaries are hopelessly diseased. Then, hysterectomy being permissible, sufficient opening is secured to evacuate properly and withdraw even such colloid growths. If this be true of these latter tumors, it applies with greater force to unilocular cysts with more fluid contents. From this it must appear that, while tumors wholly outside the pelvis can be best treated by abdominal section, many of these can be reached by the vagina, provided it be proper to remove the uterus. In these cases it is wise to operate with the hips somewhat raised, else the intestines and omentum will occupy the field, and are apt to cut off the escape of fluid, which then tends to ascend and accumulate just under the abdominal walls.

CASE 4. An intraligamentous ovarian cyst of the left side, with dimensions about equal to the foetal head at seven months, was removed per vagina through the cul-de-sac. Some difficulty was experienced in enucleating the sac. This was overcome, however, by opening the anterior fornix, through which the sac was easily removed. Our experience in this case impressed us with the advantages of the anterior over the posterior line of approach in the intraligamentous growths. By this route most of them can be removed without entering the peritoneal cavity. After reaching the under surface of the peritoneum, in the utero-vesical fold, it is only necessary to push aside the tissue with the finger, when the wall of the sac contiguous to the lateral uterine wall is easily reached and punctured. Subsequent enucleation can then be readily made. By hugging the uterus well up to the region of the body, before attempting puncture of the sac, one easily avoids ureter and bladder. Hæmorrhage is readily controlled by forceps.

CASE 5. *A small pedunculated ovarian cyst (size of foetal head at term).* The cyst was adherent to the pelvic floor; was, therefore, readily reached and quickly removed. All such cases are eminently fitted for the infra-pubic operation. Solid or fluid, hard or soft, benign or malignant, the

route through the cul-de-sac gives easy access and ready control of each and all.

CASE 6. *Extra-uterine pregnancy.* This was an example of an extra-uterine foetation, in which incision, evacuation, and drainage brought a speedy cure. Bleeding points were many, but they were secured by forceps, which were left in place forty-eight hours. This is a condition which, prior to rupture, one can always elect to reach by the vagina. The tumor from first to last is well down in the posterior regions of the pelvis, and is easily reached through the posterior vaginal wall. It may be necessary to remove the uterus, however, for without this addition we may have excessive hæmorrhage. Still, if one can get hold of the connection of the mass by clamping upon its two sides, outer and inner, bleeding can be stopped. After the placenta is fully formed, the child being alive, the suprapubic route would no doubt be preferable. Touching those cases, whether early or late, in which, from antecedent rupture or otherwise, the foetus is dead, the infrapubic route will meet every requirement, as we have then little more than to evacuate and drain.

*Inflammation and suppurative disease of the appendages, including tubercular disease.* This field is particularly rich in opportunities for vaginal section. In fact, there appears to be no stage which positively contraindicates it. It offers the best means of checking the ravages of acute inflammation, thus tending to the highest kind of conservatism; it affords opportunity for the partial plastic operations upon the adnexæ and uterus, and it gives us the best operation for suppurative disease of these same adnexæ, when their removal is demanded, as in tubercular disease and in the destructive inflammation of both appendages.

It is interesting to note that this class of cases has furnished the battle-ground of this question. But the increasing belief that the uterus must go with the appendages, that hysterectomy in destructive double adnexal disease is required, and, further, that plastic so-called conservative operation upon the uterus and appendages can be done through the vagina, bids fair soon to settle the question in favor of vaginal section.

CASE 7. *Acute processes.* This is an instance of acute salpingitis and pelvic peritonitis, following abortion at two and one-half months. The uterus was cleansed and packed with sterilized gauze; the cul de sac by a free opening evacuated of turbid serum. The inflamed appendages were not disturbed, a loose gauze drain being carried into the cul-de-sac, which was first washed out with sterilized water. Finally, the vagina was loosely packed with gauze. This was removed at the end of forty-eight hours, the final result being all that could be asked.

This case illustrates what will probably be a common application of one step of the infrapubic operation, namely, the incision into the cul-de



sac with a view to drainage. This step appears to promise much in mitigating the damage which befalls the appendages in the face of the inflammations which come to them through those very common causes—abortions and gonorrhœa. The cleansing of the uterus, together with free drainage from the pelvic peritoneal area, seems to be the rational way of treating such cases; but it is a self-evident proposition that to be of service it must be done early.

CASE 8. *Acute puerperal metritis, etc.* In connection with the preceding case, the present one illustrates the ease with which one may go to extremes, when necessary, in puerperal septic cases. A woman was septic five days, the form being sapræmia rather than mere sepsis. In ten minutes the uterus was removed and the operation completed. The relaxed and dilated state of the whole genital tract makes the operation exceptionally easy. From this we infer that all such cases are peculiarly fitted for the infrapubic operation.

*Chronic processes.* For illustration, a synopsis of three cases is now given.

CASE 1. By means of *anterior colpotomy* the uterus was anteverted; the fundus and the appendages were brought through into the vagina. The right appendage was normal, the left diseased. The left was removed. The remaining organs were then returned to the peritoneal cavity. The opening in the peritoneum was closed, that in the vaginal wall left open. The uterus was curetted and packed; patient out of bed in a week.

CASE 2. By means of posterior colpotomy an adherent and purulent ovary and tube were discovered on the left side. They were removed, a clamp being used. Upon the right side the appendages, being normal, were not removed. The uterus was treated as in Case 1, and the patient did quite as well.

CASE 3 represented a double ovarian abscess and double pyosalpinx. The pelvis was practically filled with the mass and the associated adhesions. The uterus was first cut out, and then the left, and, lastly, the right appendages were removed. The process was tedious, and, owing to the intimate and firm attachment of the rectum, this intestine was torn. No attempt at closure was made, as the opening was small. The recovery was quick, but a foetal fistula remained for two months, when it finally closed spontaneously.

*Fibroid disease of the uterus.* The tumors when of small size are more amenable to vaginal section than almost any other condition. This has already been well brought out at the Obstetrical Society in this city, to whose proceedings I refer for more specific remarks in this direction.

In brief, it may be said that all fibroid tumors lying chiefly in the pelvis are suitable for morcellation by the vagina, the intraligamentous, for

instance. Pure myomata and fibro-cystic tumors, even though they extend as high as the umbilicus, may also be brought within the limits of vaginal section, but not so with the hard, pure fibroid growth. It is difficult to fix any limit for these ; but in general it may be accepted that where such tumors are wholly above the pelvis, and fill the hypogastric region, they had better be removed by abdominal section. Especially is this the case if the pelvis is narrow and deep ; but we find much encouragement to the removal of these growths by the vagina when we contemplate the remarkable work accomplished for so many years in the removal of submucous fibroids by vaginal morcellation.

*Objections.* After all has been said, it is plain, however, that there are objections to vaginal section which are sufficient to deter many operators from adopting it. Let us see what they are. The conformation of the pelvis does not exercise a decided and, it may be, a controlling influence. All deep, narrow pelvises render vaginal section difficult, and in case of partial operations, such as removal of one appendage, when thickness and rigidity of the pelvic floor, as may be met with in some women, is added, will practically forbid it. In the presence of a male pelvis in a stout woman with a narrow vagina one should be slow to adopt vaginal in preference to abdominal section.

The claim is made that the operation is liable to be incomplete in the case of pus-sacs. No doubt this is true of the past, and perhaps at the present with some operators, but the youth of the operation accounts for this. The same objections formerly held good with abdominal section in such cases, as is shown by the number of inoperable cases that used to be reported.

Another objection is that viscera are more liable to be injured. This relates chiefly to the rectum, and is no doubt true, but in spite of it the cases do as well ultimately as similar ones done by abdominal section. Such cases when treated by abdominal section require drainage, and prolonged drainage, as a rule. This predisposes to hernia, so that against a temporary vagino-intestinal fistula in vaginal section one must put hernia with abdominal section.

Herniæ are not common after vaginal section, for if they were we would have heard more of them, in view of the long time vaginal hysterectomy for cancer has been a recognized and oft-performed operation. The claim that sepsis is more common is not borne out by the experience of the operators. It is true that the average temperature after vaginal section is higher for the first two or three days than after abdominal section, but this applies only to cases in which the forceps instead of ligatures are used.

The same comment applies to the objection urged on the score of the offensive vaginal discharge. Here, again, the claim rests against the

forceps rather than the ligature. But, after all, the objection is one readily controlled by proper vaginal douching, and is relatively an unimportant objection, when the advantages of vaginal section are considered.

*Advantages.* These briefly stated are: As much safety as abdominal section, and this, too, at its inception, leading one to believe that, with the same relative time and attention given to it that abdominal section has secured, it will be safer. The recovery is more rapid and the after-condition is better, because herniæ and omental and intestinal adhesions are less common.

Finally, we beg leave to say that, from all that has been said and done in this subject by the various operators, we might as well admit that a revolution is taking place in our methods of dealing with the uterus and appendages, and it is safe to say that most of the operations done now above the pelvis for conditions specified in this article will soon be done from below. It is merely a question of learning how to do it,

After giving a minute description (with good illustrations) of the various kinds of vaginal operations, he concludes his able article with a recapitulation of conditions favorable, on the one hand, to vaginal section; on the other, to the abdominal sections in diseases of the female pelvic organs:

*Vaginal Section.*

- (1) A shallow and wide pelvis in a thin woman.
- (2) Exploration of the pelvis.
- (3) Visceral adhesion in true pelvis.
- (4) Displaced and adherent uterus.
- (5) Smaller ovarian cysts, especially the intraligamentous and parovarian.
- (6) Smaller fibroids, especially the soft.
- (7) Extra-uterine pregnancy, up to seventh month, and after death of foetus.
- (8) Pelvic hæmatocele.
- (9) Puerperal hysterectomy.
- (10) Acute inflammation of the appendages, with peritonitis, involving cul-de-sac.
- (11) Inflammatory destructive diseases of the appendages, including tubercular disease.
- (12) Pelvic abscess pointing downward.
- (13) Conservative operations on appendages that lie in true pelvis.

*Abdominal Section.*

- (1) A narrow and deep pelvis, especially if deformed.
- (2) Explorations above the true pelvis.
- (3) Visceral adhesions in false pelvis or above.
- (4) Large ovarian cysts, especially multilocular, with colloid contents.
- (5) Large fibroids, especially the firm and hard.
- (6) Extra-uterine pregnancy at time of rupture and of term.
- (7) Extra-uterine pregnancy, with tumor wholly above the brim of the pelvis, and not in relation with uterus.
- (8) Pelvic abscess pointing upward.
- (9) Conservative operations under conditions unfavorable to vaginal section, such as narrow and deep, or a deformed pelvis that is contracted.



## DISCUSSION.

Dr. E. W. Cushing, of Boston, opened the discussion. He said that there could be no longer any doubt in the minds of those who had studied the evolution of vaginal hysterectomy that the resources of our art had been wonderfully increased by the introduction of morcellation of the uterus, and it was very significant that, in the face of opposition, the method had steadily increased in popularity, until now it numbered among its advocates some of those who at first had most bitterly opposed it. The question at the present time was really between total abdominal and total vaginal removal of the uterus and appendages. By splitting the uterus in half the organ could be brought down much further, and by successively dividing these halves it could be made to descend gradually and rotate anteriorly, thus bringing into view any adhesions that might exist. Clamps were applied to the vessels of the broad ligament under the guidance of both sight and touch. By this method of operating the uterus could be safely and quickly extirpated, even when bound down by firm adhesions, and fibroids up to the size of a cocoonut could be removed with far less shock than by abdominal section. The simplicity of this method, and its comparative freedom from danger, could hardly be believed by one who had not had the opportunity of seeing it done by an expert. If the tubes are full of pus, they may be opened and washed out without soiling the peritoneal cavity. It was generally accepted, the speaker said, that the vaginal operation was best in the severest cases—those in which there are large purulent accumulations from tubo-ovarian abscesses, or from suppurating hæmatocle where the pus is roofed in by dense adhesions of bowel and omentum. When it is not certain that both appendages are involved, the vaginal vault can be opened behind, or, still better, anteriorly, and the question of the removal of the appendages determined by inspection. The advantages of the vaginal operation were diminution of shock, freedom from abdominal wound and scar, and from liability to hernia.

Dr. W. T. Lusk said that it was particularly interesting to hear from Dr. Polk on this subject, as he had been the pioneer in this work in this city. When it had been proposed in Brussels, in 1892, to substitute the vaginal route for the abdominal method in doing much of our work, the speaker said that he had received the suggestion with impatience; but his attention had been called to the method by the great rapidity of convalescence of patients operated upon by the vaginal route, and he had at last become a convert to the vaginal operation. The capabilities of the method had been strikingly demonstrated to him by a personal observation of the work of such surgeons as Péan, Pozzi, Ségond, and Jacobs. Notwithstanding the length of time required for the removal of fibroids by the vaginal route by morcellation, it was worthy of note that the operation had scarcely an

appreciable effect on the patient. In cases of double pyosalpinx, in which the uterus was removed first and the tubes afterward, the vaginal method was certainly safer than the abdominal. In closing, the speaker cautioned those who wished to change to the vaginal method to go slowly, and select for a trial of this method only the simpler cases. He felt sure that these vaginal operations would be followed by much less discomfort in the patient.

Dr. J. M. Baldy, of Philadelphia, said that he believed he was almost alone here in opposing the vaginal operation. He had no quarrel with the beauties of the vaginal method, nor did he question many of the advantages and results ; but he felt that the two routes had not been compared with sufficient care. He was positive that there was as little shock after the abdominal operation as after the vaginal operation, and also that the peritoneal cavity was opened almost as frequently by the vaginal route. He also contended that it was infinitely more reliable to operate through the abdomen, with the patient in the Trendelenburg position, than to operate by the vaginal route, because in the former one had the aid of both sight and touch, and was in a much better position to determine whether an operation should proceed further or terminate as an exploratory incision. In comparing the two methods of operation, great stress was laid upon the very slight degree of shock observed after the vaginal operation ; but, in his experience, shock was not a great element in pelvic surgery. The bright side of the vaginal method had been very ably presented, but nothing had been said about the alarming proportion of fistulæ following this operation. Most operators by the vaginal route had included fifteen or twenty cases of fistulæ in their lists of these operations, and many of them had spoken of the difficulty of curing them. Sometimes an abdominal operation was demanded for the relief of this serious complication of the vaginal operation. Injury to the ureters was not at all uncommon, and by the vaginal method the operator was ignorant of the existence of the complication.

One of the great objections to the vaginal method was the incompleteness of the operations. He had never seen a vaginal hysterectomist do a complete operation. As an expert operator required nearly twice the time to operate by the vaginal route as by the abdomen, this prolongation of the etherization was a matter for serious consideration.

Dr. E. B. Cragin said that the first vaginal coeliotomy he had ever seen had been done by Dr. Polk, and the more he saw of vaginal work the better was he pleased with it. All surgeons must have noticed a certain depression of the patient after abdominal operations ; and, without stopping to consider whether or not this was shock, he would say, further, that all must have noticed also that this depression was not so great after the vaginal

operation. He could not agree with Dr. Baldy in excluding from the cases suitable for vaginal operation large pelvic intraperitoneal abscesses. These were exactly the cases in which the vaginal operation showed its superiority.

Since March 2, 1895, he had performed 55 vaginal coeliotomies, of which 42 were for diseased appendages. According to his experience, therefore, about 75 per cent. of cases of diseased appendages were suitable for the vaginal operation, and the remainder for the abdominal operation.

Dr. Charles P. Noble, of Philadelphia, said that the arguments in favor of the vaginal route had been presented, but everything had been stated in very general terms. He would like to ask Dr. Polk and Dr. Cushing how many vaginal operations they had done, how many deaths they had had, and how many fistulæ they had met with.

Dr. Polk replied that his mortality had been 3 in 72, and the fistulæ 2 in 73.

Dr. Cushing said that he had had about 75 vaginal hysterectomies, with 5 deaths; and of this number there had been 2 urethral fistulæ and 1 fistula of the bladder, all of which had been cured. In a recent series of cases there had been 20 vaginal operations, with 1 death. All his operations had been complete.

Dr. Noble said that, in comparing the two methods of operating, one should consider the mortality, the morbidity, the sequelæ, the mode of convalescence, and the ability to deal with complications. The mortality was very low by both methods. The morbidity after abdominal operations was not more than 5 per cent. in his experience. Adhesions occur in both methods. Most operators reported about 10 per cent. of incomplete vaginal operations, which should be contrasted with the small number of infected pedicles in the abdominal method. He thought that there was but little doubt about bowel and bladder fistulæ being more frequent after the vaginal operation. By the abdominal route, in his opinion, it was far easier to cope with complications arising during the operation, and also to control the hæmorrhage. The use of clamps to arrest hæmorrhage was, at best, very crude surgery.

Where the facilities in a hospital for securing asepsis were poor, he would prefer to operate from below. He was prepared to believe that by anterior colpotomy one could remove small fibroids, but for larger tumors he would greatly prefer abdominal section to the vaginal operation with morcellation. He would likewise prefer the abdominal route in dealing with tubal pregnancy, except in the few cases in which there was a suppurating hæmatocele. The operation from below was likely to result in the unnecessary sacrifice of ovaries in this class of cases.

He did not wish it to be understood that he was opposed to all



operating through the vagina, but he would reserve this method for cases of large pelvic abscess, and where the women were very fat.

Dr. H. J. Boldt said that his conclusions regarding the comparative advantages of the two methods had been formulated only after a large experience with both abdominal and vaginal operations. The vaginal operation was applicable to tumors of considerable size, provided the neoplasms were movable, to cases of tubal pregnancy before rupture, or after rupture and cessation of hæmorrhage, and to fibroids which did not extend more than three or four fingers above the symphysis. The submucous and interstitial fibroids were most successfully treated in this way. For other fibroids, and for neoplasms in virgins, he considered abdominal hysterectomy preferable. It was quite possible to do a complete operation in nearly every case by patient and careful work. The risk of injuring ureters and bowel was about the same in the two methods.

Dr. N. H. Vineberg said that his experience was entirely opposed to the view that the tubes and ovaries could be resected more satisfactorily by the abdominal route. The vaginal operation was particularly appropriate to these cases, because they were often associated with retroversion, a condition which could be readily relieved at the same time by sewing the uterus to the vaginal wall. He could not see that Alexander's operation offered any special advantages over anterior vaginal fixation.

Dr. Paul F. Mundé said that the discussion thus far was calculated to convey the impression that all the New York surgeons had been converted to the vaginal procedure, which was far from the truth. He had extirpated the uterus per vaginam for cancer twenty-seven times, with twenty-four recoveries; but as he had secured just as good results, and more easily, by the suprapubic route, he would not care to employ the vaginal method in these cases hereafter. There was certainly no more shock following the abdominal section. As was well known, he was not given to operating frequently on fibroids; but out of the thirty-three abdominal hysterectomies that he had performed for this condition, four had died. The abdominal operation was certainly easier than the vaginal. He had long maintained, and in the face of much opposition, that all fluid accumulations were best operated upon through the vagina, and he was glad that this method now had an increasing number of advocates. He would limit the vaginal operation to cases of pelvic abscesses, in which the vaginal was roomy and the sacs could be drained or enucleated.

Dr. E. E. Tull exhibited a specimen to demonstrate the completeness of the vaginal operation. He had done fifty operations of this kind, with two deaths. These deaths were due to purely accidental causes. He could not understand why some surgeons used so many clamps and ligatures. He had recently removed a tumor weighing ten pounds, and in this operation had used only one clamp and two ligatures.

Dr. W. Gill Wylie said that, although he had done about 1,500 abdominal sections, he had resorted to the vaginal route only 100 times. Out of these 100 vaginal hysterectomies there had been only one fatal case, and he attributed his excellent results largely to the fact that these vaginal operations had been done in a favorable class of cases. The abdominal method was assuredly the one admitting of more general application, and, if the great surgeons of France had been as expert in abdominal surgery as the American and German surgeons, he was of the opinion that the vaginal method would not have been so strenuously advocated.

Dr. Polk, in closing the discussion, said that there seemed to be a general agreement regarding the greater simplicity of the abdominal route; and although it was a general rule that the easier the operation the better the work done, this proposition did not hold good if in attaining this ease of operation it was necessary to do violence to important structures. The peritoneal cavity was just as likely to be opened in the one method as in the other. When the time consumed in suturing the abdomen was considered, it was evident also that there was no very great difference in the time occupied by the two operations in a given case. He had made no mention of cancer in his paper, because he was not decided as to which operation was the better one. He was inclined to think, however, that we were justified now in performing abdominal section, and in adding to the old Freund operation the removal of the broad ligament and of infected glands.

It so happened that those who had participated in this discussion had not grasped what he considered the great underlying principle, viz., that peritonitis usually originates in the lower part of the pelvis, in close relation with the vagina, and that by early incision into this structure it was possible, with little or no risk to the patient, to cut short diseased processes and save important structures in the pelvis. Having once adopted this practice of early operative interference by the vaginal route, he felt confident that all the objections that had proved such stumbling-blocks in this discussion would be forever wiped away.

A RATIONAL TREATMENT FOR PHTHISIS PULMONALIS,  
TOGETHER WITH SOME NOTES ON A NEW  
REMEDIAL SOLUTION.

BY CYRUS EDSON, M.D.,  
NEW YORK.

**D**URING a study of phenol, made in the early part of 1895, I was very much struck by the observations of Stadler, Merck, Brieger, Salkowski, and others. These investigators declared phenol could be found in the urine of man, the horse, and the cow.\*

According to Merck, healthy urine from a mixed diet contains 0.004 gram of phenol per litre, and, according to Salkowski, under pathological conditions the amount may rise as high as 1.5575 grams; in other words, during health phenol is a normal constituent of the urine,† and during disease the per cent. present is enormously increased.‡

It has long been my personal belief that many pathological phenomena observed in diseases which are not usually credited to germ infection are but the manifestations of the absorption of poisonous bacterial products. For example, the high temperature of fever may arise from the poisoning of the nerve-centres by such products. If this be true, then the increased secretion of phenol by the system during disease is, in fact, one of nature's many devices to cure the underlying condition, to destroy the germ infection. The increase of phenol elaborated by the system during pathological conditions is, in the light of the knowledge we have of bacteriology and of phenol, extremely significant. This reasoning naturally led me to

\*Am. Chem. Pharm., lxvii, 360.

†Phenol occurs in the urine as the potassium salt of the unstable phenyl-sulphuric acid, and for this reason can be detected only by distillation with hydrochloric acid (see Ber. Deutsch. Chem. Ges., ix., 1595-1596). According to Brieger, phenol is also found in small quantities in excrement (Jour. Prakt. Chem. (2), xvii., 133).

‡Brieger found increase of phenol in urine during scarlatina, erysipelas, etc. (Hoppe-Seyler's Zeitschr., iv., 204). According to Wohler the præputial glands in the beaver secrete a substance known as castoreum, which is found to contain small quantities of phenol (see Am. Chem. Pharm., cxvii., 360). It has also been demonstrated by Baumann that when albuminoid bodies are allowed to putrefy in the presence of some water and pancreas phenol is formed (Ber. Deutsch. Chem. Ges., x., 685).



think phenol was selected by nature for the cure of some, at least, if not all, of the so-called germ diseases. Of course, the conclusion was obvious, but the corollary of that conclusion, which assumed great importance in my mind, was this : If nature herself provides phenol during disease, then it cannot be possible she will not tolerate the administration of the agent in effective dosage. Yet this fact stared me in the face, that an injection of any known solution of phenol in effective dosage was believed to cause poisonous symptoms. This was equivalent to saying there must be some form in which phenol could be injected in effective dosage, which would aid nature in her efforts to effect a cure, and which would be tolerated by the human system. Moreover, it was apparent to me that phenol, being the only known antiseptic agent, except its homologue, cresol,\* of which the amount in the system is increased during disease, it would be the best to select for experimental purposes to the exclusion of any other. When we follow Nature along her efforts to effect cure, we cannot go far wrong. The problem before me, then, was to find the form of solution of phenol which Nature would tolerate.

With this idea in mind, and remembering the fact that creosote has been, and is, extensively used for the treatment of tuberculous disease, more especially for pulmonary tuberculosis, and, furthermore, knowing that creosote, according to the latest chemical researches, is not phenol,† as it was formerly supposed, but merely has the latter as one of its constituents, I formed the opinion that the so-called creosote treatment, which may almost be said to have become a fad among physicians, depended for its success mainly on the presence of the phenol the creosote contained.

Now, there is a fatal objection to the creosote treatment, namely, its derangement of the digestive function when continued for any considerable length of time, and this objection holds equally good in the case of phenol administered by the mouth. Therefore, it was apparent that some other mode of administration should be chosen. I then took into con-

\*Cresol hydrate is the homologue of phenyl hydrate, and we might expect to find cresol (tauric acid) in the urine ; in fact, Baumann found it in the urine of graminivora, occurring as the potassium salt of paracresyl-sulphuric acid (Ber. Deutsch. Chem. Ges., ix., 1,389, 1,716). Urine of the horse also contains some orthocresyl-sulphuric acid according to Preusse (Hoppe-Seyler's Zeitschr., ii., 355, also Ber. Deutsch. Chem. Ges., xi., 1911).

†While creosote has under certain favorable circumstances proved of value, still it cannot be relied upon. This fact is readily explainable, as Hugo Miller, Gorup-Besanez, Marasse, and Tiesnau have shown that creosote is not phenol, but that, although it contains some, it is composed principally of paracresol, phlorol, guaiacol, cresol, methyl-guaiacol, methyl-cresol, etc., all of which exercise certain actions on the system peculiar to themselves. Creosote contains : Some phenol,  $C_6H_5OH$  ; paracresol,  $C_7H_7OH$  ; phlorol,  $C_8H_9OH$  ; guaiacol,  $C_6H_4OCH_3OH$  ; creosol,  $C_6H_3CH_3OCH_3OH$  ; methyl-guaiacol,  $C_6H_4OCH_3OCH_3$  ; methyl-creosol,  $C_6H_3CH_3(OCH_3)_2$ , etc.

sideration Gilbert's reports\* of the administration of phenol solutions by the rectum in cases of phthisis, and came to the conclusion that the favorable percentage of cures (Gilbert claimed twenty-five per cent.) would probably be very much increased if the phenol could be administered hypodermatically. This I found had been done by Declat,† Sistini, and others,‡ who had made steps in advance of the former observer. The preparations of phenol recommended by them did not give me results with which I was satisfied.

I determined, therefore, to experiment with a view of producing a fluid which could be administered hypodermatically, without irritation or toxic effects, and which should at least contain phenol in such effective dosage as would turn the scale of natural resistance in favor of cure. I am well aware that many men have drawn conclusions from experimental research that at least one per cent. of phenol to the entire amount of blood in the system is necessary to effect the result I aimed at, and that such an amount would be overwhelmingly toxic.|| But these scientists too often lose sight of the fact that experiments outside of the body are not, and never can be, identical with results depending in part on factors operating within the body. The blood is an antiseptic fluid when within the body, and one of very considerable power. Its natural resistance to germ infection, though this doubtless varies in different individuals, is great. A comparatively small amount of antiseptic reinforcement, therefore, may be sufficient to increase that resistance to the desired point.

I will not enter into a description of the long line of experimental work in the laboratory which finally led to the production of the fluid I have used in my formulated treatment of phthisis.

In order to enable physicians who have used it to understand what they were administering to their patients, I prepared a confidential circular, which contained an exceedingly rough description of the method of manufacture. It will at once be apparent, from the report printed below, that it would have been impracticable for me to send a detailed description, such as is here given.

Desiring to have the description of its manufacture as complete and scientific as possible, I requested Professor Henry A. Mott, the distinguished chemist, to investigate the process and report to me. Dr. Mott kindly consented, and his report is as follows :

\*See Annual of Universal Medical Science, Sojous, "Phthisis Pulmonalis," 1892-1893.

†See Works.

‡See Practitioner, vol. i., p. 4, 1894. Lancet, November 25, 1893.

||"Reference Handbook of Medical Sciences," vol. i., p. 759.

"Laboratory of Henry A. Mott, Ph.D., LL.D.

"Cyrus Edson, M.D.

"DEAR SIR,—Pursuant to request, I have examined the preparation known as 'aseptolin,' as also the process employed in its manufacture, and I have the honor to report as follows :

"By means of chemical analysis, there can be separated from the fluid in question a colorless crystalline salt, which is new to the medical profession, being a chemical combination of absolutely pure phenol ( $C_6H_5OH$ ) and the alkaloid pilocarpine ( $C_8H_5N_2O$ ). This pilocarpine-phenyl-hydroxide ( $C_{11}H_{16}N_2O_2OH.C_6H_5$ ) exists in the fluid, dissolved in an aqueous 2.75 per cent. solution of phenol.

"The Composition of the Fluid.—

|  | Per cent. |
|--|-----------|
| Water ( $H_2O$ )   | 97.2411   |
| Phenol ( $C_6H_7O$ )   | 2.7401    |
| Pilocarpine-phenyl-hydroxide ( $C_{11}H_{16}N_2O_2OH.C_6H_5$ ) | 0.0188    |

Total..... 100.

"The composition of pilocarpine-phenyl-hydroxide ( $C_{11}H_{16}N_2O_2OH.C_6H_5$ ), deduced by calculation, is as follows :

|                                      | Per cent. |
|--------------------------------------|-----------|
| Pilocarpine ( $C_{11}H_{16}N_2O_2$ ) | 53.92     |
| Phenol ( $C_6H_7O$ )                 | 46.08     |

Total..... 100

"It is not the function of the chemist to speak of the medicinal properties or applicability of a drug ; hence I will proceed to a description of the manufacture of the new compound which you have, after laborious research and experiment, produced, and also set forth the process adopted for the production of aseptolin.

"Your experiments have shown that none but the very purest chemicals can be employed. The phenol obtained in the market, besides containing traces of para-cresol ( $C_7H_7OH$ ), contains, as a rule, other impurities which unfit it for the direct preparation of this fluid.

"Starting with phenol distilled directly from its hydrate ( $2C_6H_6OH_2O$ ), which has a much higher melting-point and a much lower boiling-point than the phenol ordinarily obtainable, I find that you subject a solution of such phenol, distilled in water, to an additional distillation, heating the vapor as it passes from the retort to the receiver in an oil-jacketed tube (in which a thermometer can be inserted), and then condensing the same in a double-stoppered receiver, which enables you to reject the first ten per cent. so condensed, utilizing the remainder, with the exception of the last ten per cent., which is likewise rejected.



"In the preparation of pilocarpine-phenyl-hydroxide, it is necessary only to weigh out an equivalent proportion of this purified phenol solution (after determining its strength by chemical analysis), heat the same to about 100° C. (212° F.), and then gradually add to it an equivalent amount of the pure alkaloid pilocarpine, when, on standing for ten or twelve hours, the uncrystallized pilocarpine-phenyl-hydroxide will separate out. From this salt the fluid may be directly prepared, by following the analysis given above. The usual method, however, adopted in its preparation on an extensive scale is as follows :

The highly purified phenol is diluted with distilled water until the percentage of phenol is reduced to exactly 2.75 per cent., which can be determined by the phenolometer. This is introduced into glass-stoppered receivers, which have been thoroughly cleansed with boiling water. In the receiver the right proportion of the alkaloid pilocarpine is put, so that, as the phenol distils over and condenses, it immediately combines with the pilocarpine in the production of the fluid. The temperature of the receiver is kept reduced by means of a small stream of water, yet sufficiently high to insure the desired union, but is never allowed to approach a temperature which would permit of the alkaloid suffering any other chemical change.

"Experiment has demonstrated that strict adherence to the above methods is required in order to produce aseptolin of a uniform composition and of an absolutely colorless physical appearance. A cloudy, milky, or slightly tinted preparation should be rejected. The proportions of the constituents do not permit of the presence of even traces of foreign bodies, if reliable results are to be expected. I am, sir,

"Yours respectfully,

"HENRY A. MOTT, PH.D."

It will be noticed that Dr. Mott speaks of "aseptolin." Thinking this was a good word, and following the convenient fashion of substituting a name for a formula in writing, I have called this chemically pure solution of phenol and pilocarpine-phenyl-hydroxide, aseptolin, because it is more convenient than is the repetition of the formula; but it is unnecessary for me to say that in order that such a name may not be classed with that of a proprietary remedy, the profession is free to substitute a better term if need be, and either in its present form or in any other the new agent can be used as freely as any compound or combination of the Pharmacopœia.

Pilocarpine was added to the solution for two reasons: (1) To induce leucocytosis; \* (2) to stimulate glandular activity. It also accomplishes a

\* "Beobachtungen an Leukocyten, sowie über einige therapeutische Versuche mit Pilocarpin bei der (Diphtherie?) Streptokokken-Angina, Lymphdrüsen-Erkrankungen, Tuberculose und Lupus," von Dr. Louis Waldstein aus New-York (Sonderabdruck aus der Berliner klin. Wochenschr., 1895, No. 17).

third purpose, for it is an expectorant and stimulant of secretion of very considerable power. It causes a certain increase in the amount of water separated from the blood in the lung cells. This is shown by the fact that there is an increase of watery vapor carried off by the breath of a person taking it.

A short study of pilocarpine is interesting. A. Curci\* states that this drug produces hypersecretion; in large doses it causes convulsions and paralysis. The paralysis is accounted for by regarding pilocarpine as a quaternary ammonium compound; but phenol and the oximhydroxol group are more powerful in producing hypersecretion, while, at the same time, there is less danger of causing convulsions\* and paralysis. It is not improbable that in the organism change may occur, a pilocarpinate being formed with the bases of the body. In dogs the drug leaves a body in the urine as free pilocarpine, and also as a pilocarpinate. Pilocarpine has been used in croup and diphtheria by Sziklai,† he giving pilocarpine hydrochloride in doses 0.02 to 0.07 gram for children, and 0.08 to 0.10 gram for adults. Leyden has used one-half to two per cent. solution for subcutaneous injection. Ringer and Jamieson‡ have administered for experimental purposes 0.0325 gram of nitrate of pilocarpine. Weber§ experimented on himself, using 5 c.c. of a one-half per cent. solution. No one who has given a large dose of jaborandi or its principal alkaloid, pilocarpine, and has observed the enormous amount of water that almost fills the lung cells, the small and larger bronchi, will forget the danger that impends from œdema of the lung. Of course, the amount of pilocarpine, even in the largest doses of the fluid, is not sufficient to cause a perceptible effect in this direction.

From what has been said, it will be apparent to all chemists that the fluid is a hydrophenol, containing a definite amount of the new pilocarpine compound.

It is not very difficult to make, provided one has the apparatus, and is sufficiently careful. It needs extreme care. The experience of my laboratory assistant, as written in a note to me, was as follows:

"For two months I could not produce a satisfactory fluid more than once in three times; in fact, I think we threw away, during the first three months, about one-half or nearly all of what we made. The results of our experiments with guinea-pigs were such as to convince anyone that no phenol solution of the strength of the pilocarpine-phenyl-hydroxide solution, except the latter, could be safely injected. If other men make it,

\* Chem. Centralb., 1893, 659. Also, *Annali Chem. Farm.*, 1894, 3-8.

† Actyl. Prakt., 1893, 914.

‡ Phar. Jour., 3, 596.

§ Med. Centralblatt, Wien, 1876, p. 769.



they should be extremely careful; otherwise their product may give rise to serious consequences. At the same time, there is no reason why a competent chemist should not make it successfully."

The solution prepared in my laboratory is a colorless fluid, strongly refracting light, having the characteristic odor and taste of phenol. Injected under the skin, it causes a sharp, burning pain, not so severe as that following an injection of bichloride of mercury in solution. In the great majority of cases, the injection is not followed by any local irritation whatever. In a few, a small nodule appears at the point of injection, which, as a rule, disappears after a few days. Dr. Glover C. Arnold, of New York, declares that this nodule results from injecting fluids against the flow of the capillary lymphatics, and advises all hypodermatic injections to be made with needle inserted in the direction of the flow of these lymphatic vessels. This, in the abdomen, which, in my opinion, affords the best site to give large injections, would be affected by directing the insertion of the needle away from the median line. Though I have given over one thousand injections, and some of them very large ones, viz, single injections of three hundred and fifty minims each, I have not seen a single abscess resulting therefrom, and nodulation in only two cases; one of these was on my own person, following an injection of two hundred and fifty minims for experimental purposes. No reaction, such as follows the administration of tuberculin, is observed after the injection of properly prepared pilocarpine-phenyl-hydroxide solution, nor is there any visible physiological action noted following an injection of two hundred and fifty minims, given to a man weighing one hundred and fifty pounds, except that the urine passed subsequently reacted strongly to tests made to ascertain the presence of phenol, and traces of phenol were noted in the condensed vapor of the breath, and in the contents of the stomach drawn off through the œsophageal tube within three hours of injection.

The effect of the solution when injected into the organism of a patient suffering from disease caused by active germ infection is to directly inhibit bacterial development, and, consequently, to diminish the production of poisonous bacterial products. Its beneficial effects are so quick and positive, in the great majority of cases, as to convince anyone who uses it of the correctness of this conclusion. Phenol and pilocarpine phenate both stimulate glandular activity and exert a physiological effect in this direction over the range of which they act synergistically. It follows, therefore, that the remedy stimulates the production of the leucocytes.

Experience certainly has taught us that stomach derangement in cases of phthisis, if not speedily remedied, very quickly results in the death of the sufferer. It is right here that I claim an enormous advantage for the treatment that I am using. It enables us to save the stomach for ali-



mental purposes alone, and, by giving easily digested, rapidly assimilated and highly nourishing food, a very great factor in a favorable result is secured.

The dosage, so far as I have been able to formulate it, in a case of phthisis, should begin with fifty to seventy minims daily, given in the abdominal parietes in a single injection. This dose should be increased about ten minims daily, until one hundred or one hundred and twenty minims is reached. Thus, commencing with a dose, say, of seventy minims on the first day of treatment, on the second day eighty minims should be given, on the third ninety, and on the fourth one hundred. This latter dose should be kept up daily until the patient has recovered, or until some symptoms appear which indicate to the attending physician the discontinuance of the fluid. This would probably be the case if, for instance, albumin should appear in the urine, or if unusual nervous symptoms should develop, or if persisting nausea should be present, or if any symptom which was evidence of a personal idiosyncrasy against the remedy should show itself.

With these injections—I inject daily, or in some cases every other day, the treatment depending upon the severity of the disease and the response of the patient to the remedy—I give inhalations delivered from a Sass spray tube and a globe inhaler. These inhalations are of very great importance. The most efficient of the sprays I have found in a ten per cent. solution of iodoform in ether:

|               |            |
|---------------|------------|
| Iodoform..... | 10 parts.  |
| Ether.....    | 90 “       |
| <hr/>         |            |
|               | 100 parts. |

This is given once or twice daily through a Sass tube having laryngeal delivery. The spray is best given under a delivery pressure of one atmosphere. This, of course, necessitates the use of an air pump and a receiver, which can be purchased from almost any reputable surgical instrument maker. The spray tube should be introduced in such a manner that the tip nearly touches the posterior pharyngeal wall, when the spray will be delivered into the larynx. Care should be taken not to deliver the spray too forcibly. The patient should inhale and exhale deeply during the delivery of the spray, in order to draw the spray as far into the affected region as possible.

The object of the spray is to assist in clearing the larynx and bronchi of infective material contained in their secretions.

In some cases it will be found almost impossible to give the spray in a satisfactory manner at first. A spasmodic cough will follow the first inhalation. Experience of this kind led me to use a solution of phenol in water

containing some glycerin to assist nebulization. Expressed in form of a prescription, this would be as follows :

R. Acid. carbolic..... 3 parts.  
 Glycerini..... 10 "  
 Aquæ destil..... 87 "  
 M. Sig. Use in globe or other inhaler.

After a few inhalations of this, the air passages, as a rule, lose their irritability, and the iodoform and ether can be readily used.

A few patients will be found, however, to whom the odor of ether is intolerable. To these I give an inhalation of olive oil, containing ten per cent. of iodoform in solution. This solution can be made readily by any pharmacist. Iodoform is not very soluble in albolin, or this would afford, perhaps, a better menstruum for the purpose than does olive oil. The vaporization of the iodoformized oil is best effected by means of the globe inhaler. Lacking this, the McBride inhaler may be used, or it may be given with one of the nebulizers, such as are found in the pharmacies. I consider the oil and iodoform an efficient substitute for the iodoform and ether solution. I have seen no ill effect from the cold vapor produced by the ether solution in any case I have had under treatment, and my experience has led me to consider it the best of all inhalations for phthisis when it can be used.

I have obtained good results in the treatment of atelectasis by means of compressed air which is delivered through a large globe inhaler, at a pressure of about ten pounds to the inch. This should be used with caution, and not in advanced cases, lest it cause hæmorrhage. The method of procedure is as follows :

The inhaler being connected with its atomizing attachment, the openings into the afferent end are closed, so as to permit the interior of the globe to hold the pressure when the patient's lips close over the mouth-piece. The air being turned on, the patient is directed to inhale deeply. The deep inhalation, aided by the vis a tergo of the compressed air, forcibly distends the lungs, opening up disused portions, into which the vaporized spray is carried. After practising this procedure the first few times, the amount of expectoration is frequently increased to a very great degree, and breathing becomes much freer and easier. The pneumatic cabinet would, doubtless, afford a more efficient means of effecting this than the one just described, but few physicians can afford to purchase so expensive an apparatus.

A number of patients present themselves who seem to have forgotten how to breathe properly. They expand the lungs so feebly that the distal parts seem to have consolidated simply from want of use. A little earnest advice on the use of "lung gymnastics" at home, together with the forcible inhalation through the globe inhaler, accomplishes much.

My experience with pilocarpine-phenyl-hydroxide in the treatment of malaria leads me to consider it a specific, and of even greater efficiency than quinine.

I have personally treated thirty-eight cases of this disease. In the great majority of cases the mode of administration was as follows:

On the first day of treatment, two hundred minims were injected as an initial dose. This was delivered into the abdominal parietes in two injections of one hundred minims each, on either side of the median line, the point of the needle being directed away from it. On the second day, and each day following, until and including the seventh day of treatment, one hundred minims were given (injected into the abdominal parietes in different places, first on one side of the median line, and then on the other). Then, on three alternate days, one hundred minims were given in a like manner. On the twenty-first day a dose of one hundred minims was administered, and, finally, the treatment was concluded with an injection of one hundred minims on the twenty-eighth day. Latterly I have given two hundred minims on the twenty-eighth day as a final dose.

In not a single case has there been any recurrence of the malarial paroxysm after the first injection of two hundred minims, nor have any of my cases had a recrudescence or a recurrence of the attack. The patients appear well in every way within a few hours of the first injection. The medicine appears to act equally well when given during the paroxysm, or during the intermission or remission, and in remittent types as well as intermittent. Dr. John H. Ripley, of New York city, used the solution in two cases of malaria, which he describes as follows:

"The first was a complicated one, but the malarial factor seemed to yield readily. The second was a very chronic malarial poisoning, in a very young girl. Her case was treated according to your plan, carried out to the letter (described in the foregoing). She came from Brooklyn, and remained in New York so as to get the full benefit of the treatment. The disease yielded by degrees. After one week she appeared well, but a relapse occurred a week after the treatment was discontinued. I then sent her to a non-malarious country place in Connecticut, where she has since resided, and remained well. This was a very obstinate case of recurring malaria, in which I had given large doses of quinine hypodermatically, with only temporary relief."

In reporting results obtained from the application of the treatment described in the foregoing, I find myself confronted by many serious difficulties, not the least of which are lack of time and space. My practice has demanded an amount of attention that has put serious obstacles in the way of my work. I have, however, been very greatly assisted in testing the fluid by able practitioners, to whom I owe a debt of gratitude.



Among these are Dr. R. P. Lincoln, Dr. John G. Perry, Dr. E. N. Brandt, Dr. John H. Ripley, of New York city, and Dr. Lewis Balch, of Albany, N.Y. The experience of these gentlemen will probably be given in articles of their own. I have prepared and written reports of a large number of cases treated, but in an article of this kind find space for only a very few typical ones, more to illustrate the method of treatment than its efficiency.

CASE I. W.M., male, æt. 24, good family history. Has suffered from cough; normal weight, about 158 pounds; September 3, 1895, 128 pounds; had occasional night sweats, and attacks of facial and intercostal neuralgia. Expecterated about an ounce and a half of muco-purulent sputa daily, containing large numbers of tubercle bacilli, also streptococci; a slight daily rise of temperature, 99.4° F. to 100.3° F. being the evening temperature. Physical signs showed a small cavity surrounded by an area of consolidation, in middle lobe of right lung. This general condition was first noted in December, 1894, but improved so as to have entirely disappeared during a six months' residence in New Mexico. Upon return to New York there was recrudescence. Prior to September 3 he received extract of malt with cod-liver oil, creosote carbonate, and a cough mixture containing codeine and ammonia. Under this the patient rapidly lost ground.

September 3. Sixty minims of the fluid were injected into the abdominal parietes, and iodoform spray administered. Nutrient treatment, consisting of emulsion of cod-liver oil somotose in chocolate, egg phosphate, etc., was prescribed. The dose of the fluid was increased ten minims daily, until one hundred minims daily were given.

September 10. Cough much better, expectoration diminished one-half, and containing fewer bacilli; temperature normal; no return of night sweats; physical signs seemed slightly improved.

October 1. Had had one hundred minims daily since September 10, and the spray had also been daily administered. No cough or expectoration; with difficulty a little sputa, consisting purely of mucus, could be obtained, and this contained no tubercle bacilli. The patient seemed in normal health; had gained six pounds; appetite excellent; objected to further treatment, on the ground that he was well. This improvement has been held until the present time, January 4, 1896, except that the patient had a severe coryza and slight bronchitis in November, which necessitated treatment for one week, during which he was given one hundred minims of the fluid daily, and the spray as described in foregoing. Patient has not yet regained his normal weight, however, weighing at date 148 pounds. His sputa have been repeatedly examined, but no bacilli have been found.

CASE 2. L.B., female, æt. 22, married, good family history, has had two children, both being well and strong. Disease is of long standing, beginning some time in 1892. Apices of both lungs showed extensive atelectasis; bronchitis with profuse expectoration, about three ounces of muco-purulent sputa daily; no cavities, but some shreds of fibrous lung tissue in sputa, which also contained large numbers of tubercle bacilli; loss of weight, strength, and appetite; diarrhoea; night sweats; cough severe and almost constant, breathing hurried; shortness of breath preventing much outdoor exercise, very little exertion inducing palpitation; patient very anæmic. An ulcer, probably tuberculous, was disclosed by laryngoscopic examination in arytenoid space. Patient spent the summer at Liberty, N.Y., and had greatly improved, but lost this improvement, and something more, on return. A treatment up to October 17 had consisted solely of creosote, cod-liver oil, and quinine. On October 17, one hundred minims of the fluid and the spray of iodoform and ether were administered, and these were continued daily thereafter until October 20. No change, except that patient said her appetite had much improved; she also said something was making her nervous; the bowels were still loose. One hundred and ten minims of the fluid and spray were daily administered, until November 1. Within this period a very great change for the better had taken place; patient coughed less, slept well, had good appetite, had gained three pounds in weight, expectoration was much less, and there were no night sweats. Tubercle bacilli were still present in the sputa, but in less numbers, and no lung tissue appeared under the microscope. The movements from the bowels had been normal since October 22.

This patient's daily condition continued to improve until November 28, under the daily treatment I have described. Just prior to this date her sputa were examined, and no tubercle bacilli found. She had gained ten pounds in weight, and the amount of sputa decreased until only about one-half ounce daily was expectorated; her cough grew less and less. On the latter date (November 28) the patient complained of nausea and loss of appetite. These conditions persisted for a week without return of other symptoms, except that the patient lost about three pounds in weight. Feeling that the treatment was causing the unfavorable symptoms, I discontinued it for one week, during which they ceased. During the discontinuance of the treatment she developed an attack of acute bronchitis, and while she was suffering from it I resumed the treatment, giving one hundred and twenty minims the first day and the spray. The following day I gave one hundred minims and spray, and continued that treatment daily for one week, then every other day until the present time (January 4, 1896). She recovered quickly from the bronchitis, regained her weight and about six pounds additional. Microscopic examination shows a

recrudescence of the tuberculous infection. She still has a slight cough; the laryngeal conditions disappeared during the fourth week of treatment. She expectorates at present but very little, and the sputum still contains a few tubercle bacilli. There are no night sweats. Patient is strong, and able to take an abundance of outdoor exercise.

This case is a very good example of a number in my own practice and in that of other observers, where the treatment has accomplished a great deal, and where it promises still more. At the same time, it is a constant struggle in these cases to keep the upper hand of the disease.

The reports which follow I have received from Dr. John G. Perry, of New York city. Dr. Perry's practice makes such demands on his time that he found it impossible to write more fully. As he says in the note which came with the reports:

"If the enclosed cases are of any value to you, pray use them. I have had to write them as they appear, for I had no more time to give. Really, one needs more time than I have been able to find to properly study the results of your solution of pilocarpine-phenyl-hydroxide.

"CASE 1. Miss C., family history good. Had suffered for several years from insufficient sleep, hemicrania, cold extremities, dysmenorrhœa, and menorrhagia. Very anæmic. Not finding uterine disease or displacement, and learning that she had formerly resided at Elizabeth, N.J., concluded that the condition was one of miasmatic origin, and began the use of hypodermatic injections of pilocarpine-phenol (Edson), without adjuncts. As she was not able to visit me daily, there was no regularity in the treatment, but improvement began at once. Menstruation began after the fifth injection, lasted but four days, and was not attended with pain. After the tenth injection, being free of the symptoms complained of, was discharged.

"CASE 2. Miss G., æt. 22. A resident of Long Island. Had long known of her as a victim of insomnia, mental depression, and dyspepsia. In 1894 she appealed to me for relief from the above symptoms, and also from acute indigestion, which indicated gastric catarrh. For this I employed lavage, which gave her immediate relief, but exacerbations occurring whenever the atmosphere became humid, as she found it difficult to come to the city regularly for treatment, she was taught to use it herself. Recognizing the cause to be malarial, and one she had never suspected, as she could not remove herself from its influence, I thought it more charitable not to mention it to her; but after receiving the pilocarpine-phenol (Edson), I sent for her and kept her in town, and gave daily injections of it in fifty-drop doses, hypodermatically. At the end of three weeks she had recovered her health entirely, could sleep through the night, was without headache and without indigestion, and had gained nine



pounds in weight. She returned home December 30, and has remained well since.

"CASE 3. Miss T., æt. 26. Father died of cancer of the stomach. Mother a neurotic. Always delicate, of feeble constitution, and subject to bronchial cough as well as gastric catarrh. At the time of receiving the solution from Dr. Edson, she was preparing to go south, having developed a lesion at the apex of the right lung, with cough, sputa, a constant temperature of  $99\frac{2}{3}^{\circ}$  F., and the beginning of a catarrhal form of phthisis. As the patient lived far away, and could come to me only when the weather permitted, I could not carry on the treatment according to Dr. Edson's formula, but on January 9 I gave the twelfth injection of fifty minims. The cough has ceased, temperature fallen to  $98\frac{2}{3}^{\circ}$  F., appetite has improved with general strength, and the patient is so much improved that she begs permission to remain at home to continue treatment."

I have used injections of the solution in a number of cases of catarrhal and febricular gripe, occurring from the first week of December, 1895, to January of this year. No bacterial examination was made in these cases, however, and I can only say that they presented symptoms which were referable, in my opinion, only to contagious influenza. Two cases will serve to illustrate its effect in this disease.

CASE 1. S.C.—, aged thirty-two years, residence, Elizabeth, N.J. January 15 this gentleman called at my office, after having had a severe chill. Temperature  $103^{\circ}$  F.; severe muscular pains, also pains in knee-joints. This gentleman has had severe attacks of gripe, and declares his disease identical with other attacks which occurred during the prevalence of gripe. I administered one hundred and eighty-seven minims of the fluid in a single dose, sent him home, where he remained in the care of Dr. McLane, of Elizabeth, who gave him one injection of one hundred and twenty minims. He was completely well after about six hours. His previous attacks, he says, were not so severe at the outset, but lasted from ten to fourteen days.

CASE 2. Mrs. T. F. G.—, aged twenty-two, had slight chill, followed by extremely severe cough and fever, December 12, 1895. Subcrepitant râles were heard over posterior of both lungs; temperature,  $103\frac{1}{2}^{\circ}$  F.; respiration, rapid; pulse, 120, full and bounding. Severe pains over chest from coughing; face flushed; profuse sweats; extreme depression. This patient for three days remained in about the condition I have described. On the fourth day, owing to having slept exposed to a draught, her symptoms appeared suddenly worse. Patient had a slight chill; temperature, taken immediately after its subsidence, was found to be  $104^{\circ}$  F. I gave a single dose of two hundred minims of the fluid, and this was followed by a subsidence of all symptoms; within

twenty-four hours she was convalescing nicely. I did not repeat the dose of the remedy. She made an uninterrupted recovery, and was able to go out and resume her ordinary habits of life within four days after injection.

It is necessary to say a few words in reference to the permanence of any cure or apparent cure in a case of tuberculous disease. In the first place, patients once having had such a disease must be considered susceptible to its infection and liable to a reinfection and a new attack. Their susceptibility, however, is likely to diminish. Each year, as they grow older, will doubtless effect changes that will render their systems less favorable soils for the growth and development of the bacilli. Second, areas of infected structures may become encysted and remain so for long periods, during which an apparent cure will seem to have taken place, the condition being, one which, in fact, will delude the patient only while the encystment endures. Should something occur to break the latter down and free the bacilli a recrudescence of the disease will at once follow. These two conditions, it seems to me, must always obtain, and must be considered not only in the case of the treatment I have just described, but as affecting the permanence of results that may be obtained through the means of any treatment that does not involve the use of a preventive virus.

Time and space have permitted only the description of the treatment with sufficient detail to enable any physician to apply it. Beyond this—and a few references to the theory I believe underlies it—I have not gone. We pride ourselves, and justly, on this side of the Atlantic, on our practicality. As physicians, we ask for results only, and no theory has a living chance among us if results do not follow its application.

It is for this reason that I submit this treatment to the profession. From what I have personally seen in my own practice, and from what has been told or written to me by scientific men for whom I have respect, I confidently believe this method of treatment will afford the best result yet obtained, not only in the cure of phthisis and other forms of tuberculosis, but of other diseases of germ origin. The possible curative range of the fluid is obviously very wide.

It is now in the hands of about fifty physicians, in different parts of the country. I will leave for a subsequent report the descriptive histories of a number of cases included in the following summary.

The total number of cases that have been and are being treated with this fluid which have been reported to me to date is 216. Of these, improvement is reported in 212 cases, and no improvement in 4 cases. Of the improved cases, 23 have been discharged cured; 66 will, in the opinion of the attending physician, be discharged cured; and in 91 cases, while improvement is noted, no definite prognosis can be made yet. In 32 cases the improvement was only temporary. Of those in which no improvement has been noted, 1 has died.—*Medical Record*.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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Toronto General Hospital, and St. Michael's Hospital;

AND

**W. P. CAVEN, M.B. Tor.,**

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### BRONZED DIABETES.

This affection, described for the first time in 1882 by Hanot and Chauffard, is the subject of a more extended study by Dutournier (*Journ. de Méd.*, October 10, 1895). At the beginning this form of diabetes does not seem to present any special feature. Thirst, polyuria, glycosuria, and great appetite are present in variable intensity. In some cases pulmonary symptoms, such as intense bronchitis, are present from an early date. But at a period somewhat difficult to accurately determine the chief sign of the affection appears—pigmentation of the skin. When this is established, the principal features of the case are, besides pigmentation, diabetes, cirrhosis of the liver apparently hypertrophic in character, and very rapid cachexia. Later on a more or less marked ascites occurs, which may call for drainage of the abdominal cavity. Dryness of the mouth, inflammation of the gums, etc., are even more marked than in the ordinary form of diabetes. The pigmentation of the skin, which forms the salient feature, is described as a uniform lead color or a dark gray, not unlike that seen in argyria. It is uniform in distribution, and rarely are there any points of hyperpigmentation, although there may be a somewhat deeper coloration of the back of the hands and forearms. Pigmentation of the mucous surfaces seems to be very exceptional, only one instance being on record. The writer draws special attention to the constant and rapid cachexia observed in these cases, characterized by rapid wasting, extreme weakness, and inability to do anything. This weakness appears at the



same time as the pigmentation of the skin, and differs from that usually seen in the diabetes by its earlier appearance, its greater intensity, and its rapid fatality. The duration of bronzed diabetes is never long, rarely exceeding eight or ten months, two years being quite exceptional. At the same time it may remit to a slight degree, remission being always followed by more rapid symptoms. Death seems to take place by coma or profound cachexia. The nature of these cases and their relation to the ordinary forms of diabetes is quite uncertain. Post-mortem, marked cirrhosis of liver, accompanied by great accumulation of pigment, pigment granules, sclerosis and pigmentation of the spleen, pancreas, lymphatic glands, and lungs have been found. The kidneys appear relatively healthy. The pigment seems to be of hæmatic origin, and is intravascular, intracellular, and interstitial. The author suggests that in these cases there is a decomposition of hæmoglobin brought about by some as yet unknown cause.—*British Medical Journal*.

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CREOSOTE.

From it two very gratifying results are found: (1) It possesses undoubted power to relieve the foetor of the expectoration in foul-smelling cases of bronchiectasis and phthisical cavities. (2) In small doses (1 to 2 minims thrice daily) it promotes the appetite, and tends to stimulate the powers of digestion. Beyond this it is not found that it modifies in an appreciable manner the ordinary course of phthisis.—*Medical Record*.

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SERUM TREATMENT OF CANCER.

At a recent meeting of the Académie des Sciences (*Arch. gén de Méd.*, December), Richet and Héricourt presented a further report on the treatment of cancer by serum. Since their first communication on the subject they had been able to study the effects of the treatment in a much larger number of cases. Their own observations, together with those communicated to them by Reclus, Pinard, Terrier, Faure, Hallopeau, Tuffier, and others, amounting altogether to about fifty cases, led them to the following conclusions: (1) A very marked diminution of pain follows the injections; this effect had not been expected. (2) Cancerous ulcers become clean and assume the aspect of granulating sores, and may even heal over a fairly large extent of surface. (3) Marked shrinking takes place not only in the neighboring tissues and related glands, but in the growth itself. In some cases the development of the disease is checked and the general condition is distinctly improved. To sum up: In four-fifths of the cases a real improvement is beyond question, but a complete cure is not brought

about. After a month or two new cancerous foci appear, and the disease goes on and ends in death. Is the serum specific or not? The authors find it difficult to give a definite answer to this question. The results seen in two cases, however, make them incline to the belief that the serum of immunized animals is much more active than that of healthy ones. In two cases also the serum seemed to have some effect in preventing recurrence, and they suggest to surgeons a trial of a combination of this treatment with the usual operative measures.—*British Medical Journal*.

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#### SYRINGOMYELIA IN A CHILD.

In the *Revue Médicale de la Suisse Romande*, Dr. Thomas relates the particulars of a case of this curious affection occurring in a child, aged six. The patient went to a dispensary on account of severe and troublesome diarrhoea, but the hands were noticed to be peculiar in appearance. He was an only child, born at full term, and the labor was long and difficult. He had had digestive troubles, and a severe burn in 1893. Two years before he was seen—i.e., at the age of four—the mother noticed that he did not seem to have pain when he was burnt. On examination, the child was found to be of medium height, and thin. There was a moderate degree of lateral curvature, with the convexity directed to the left. The hands were large, stumpy, and cyanosed, and in the left hand the terminal phalanx of the index finger had almost disappeared, while those in the other fingers, and also in the thumb, had been altered. Similar changes were present in the right hand. There was at least no marked degree of muscular atrophy in the hands, and none in the legs; but while tactile sensibility seemed to be normal, there was diminution of that for pain, and for the appreciation of heat and cold. The knee-jerks were not obtained; there was no incontinence of urine, but loss of control over the sphincter ani. This case is peculiar and interesting because of the youth of the patient, and the completeness of the clinical features of the case. An unusual feature certainly is the loss of control over the sphincter ani. But if, as seems likely to be the case in some instances, the condition which we designate "syringomyelia" depends upon a developmental defect in the spinal cord, such a defect of control might be due to a cause similar to, if not identical with, that which produces a similar weakness in certain cases of spina bifida occulta.

## THERAPEUTICS

IN CHARGE OF

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AND

**WILLIAM LEHMANN, M.B. Tor.,**

Physician to the Home for Incurables and House of Providence.

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### ALCOHOL IN FEVERS.

(1) If the tongue becomes dry, discontinue; if moister, the drug is doing good. (2) If the pulse becomes quicker, harm is being done, and the contrary if slower. (3) If the skin becomes moister the antipyretic effect of alcohol is obtained, and again good is being done. (4) If the breathing becomes easier continue the drug.—*Armstrong, Medical Record.*

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### REMOVAL OF TATTOO MARKS.

After asepsis of region the tattoo is remade with a solution of thirty parts of zinc chloride in forty parts of sterilized water; with due precautions no great inflammatory reaction takes place. After a few days a crust forms, which falls off from the fifth to the tenth day.—*Brault, Medical Record.*

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### ON A PREPARATION OF MILK FOR DIABETIC PATIENTS.

The extremely meagre and distasteful diet of diabetic patients induces me to draw attention to a preparation of milk which I hope may be found useful, and not distasteful.

In the *Journal of Physiology*, vol. xi., p. 473, and vol. xii., p. 164, in recording experiments with caseinogen and casein, I drew attention to a method of preparing caseinogen from milk, which is freed from all sugar (and salts). The following is the method: Add to a pint and a half of milk about 90 c cm. of a 10 per cent. solution of acetic acid. This precipitates a curd-caseinogen. It should be allowed to settle, and the clear fluid siphoned off and distilled water added. After settling, this should be decanted or siphoned off, and the curd should be filtered and well washed with distilled water. If it is then rubbed up in a mortar with some



calcium carbonate, and water is added, and all the caseinogen becomes dissolved, the calcium carbonate soon settles and the milky fluid can be decanted off. The dissolved caseinogen behaves just like milk. If rennet and a calcium salt is added, and the mixture is heated to 40° C., it quickly clots, the caseinogen becomes changed into casein, which precipitates by combining with the calcium salts.

My friend Mr. Martindale, with the aid of his able laboratory assistant, Mr. Lee, has lately made some of this solution of caseinogen, or, in other words, milk without the sugar of milk. They find that the caseinogen settles better after the addition of the acetic acid if the milk is diluted with an equal quantity of water, and they filter and wash the precipitated caseinogen on a calico filter, which allows the washing to be made quicker than in my experiments where I used filtering paper.

On the addition of about 2 per cent. of glycerine to the mixture of caseinogen a not unpalatable form of milk is produced.—*British Medical Journal*.

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#### AN OINTMENT FOR BURNS.

The January number of the *Dublin Journal of Medical Science* publishes the following formula, which is recommended by Dr. Haas in the *Allegemeine medicinische Central-Zeitung*, No. 72 :

Aristol, from 75 to 150 grains.

Olive oil, 300 grains.

Vaseline.

Lanoline, each, 600 grains.

—*New York Medical Journal*.

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A cough mixture containing no opiate is that of Warburton Begbie. It is thus given in the Pharmacopœia of the Edinburgh Royal Infirmary

R Acid. Hydrocyan. Dil., ʒss.

Acid. Nitric. Dil., ʒiij.

Glycerini, ʒj.

Inf. Quassia ad ʒvj.

Ft. Mist. S. A tablespoonful in a wineglass of water three times a day. It is both a sedative and tonic in cases of phthisis.

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#### A COUGH LINCTUS, WITHOUT OPIATE.

R Acid. Hydrobromic. Dil. ʒj.

Spt. Chloroform., ʒj.

Syr. Prun. Virg., ʒiv.

Mucilag. ad. ʒiiss.

ʒj. Urg. Tuss.—*The Practitioner*.

## OBSTETRICS

IN CHARGE OF

**ADAM H. WRIGHT, B.A., M.D. Tor.,**

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the Toronto General Hospital.

ASSISTED BY

**H. CRAWFORD SCADDING, M.D.,**

Physician to Victoria Hospital for Sick Children.

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EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, December 11, 1895.

Alexander Ballantyne, M.D., president, in the chair.

*The So-called "Mittelschmerz."* Dr. Haultain (for Dr. J. Halliday Croom) read a paper on this subject. The condition was first described by Valleix, and in our own country many years ago by Sir William Priestley, later by Fashender and Sorel. Dr. Croom gave notes of three cases that had come under his own care, in the first of which the intermenstrual pain began after a very severe attack of scarlet fever, at the age of 14; the second began at the age of 30, was probably due to over-distension of the Fallopian tube with fluid, the pain being associated with the expulsion of that fluid; the third began about the age of 20, and appeared to be of the nature of intermittent hydrops tubæ profluens, and was cured, so far as known, by removal of the appendages. The details of Priestley's four cases will be found in *The British Medical Journal* for 1872. The prominent features were paroxysmal pain in the region of the ovary during the intermenstrual period, in some cases continuing up to the commencement of the flow, in others stopping before then. The normal menstrual flow was scanty, regular, and painless.

The condition occurred under three different manifestations: (1) No external manifestation at all; (2) where the pain was associated with an escape of blood; (3) where the intermenstrual pain was associated with a clear discharge. In the first, probably, ovulation and menstruation did not occur simultaneously, and thickening of the capsule of the ovary caused pain at the dehiscence of the follicle. In the second group the slight flow was probably due to endometriitis, and the pain to the passage of clots. In the third, the condition was almost certainly one of hydrops

tubæ, reaching its full development at mid-term. Some, of course, denied the existence of intermittent hydrosalpinx, and predicated a vaginal fistula communicating with the cyst. But either explanation was compatible with the view given.

*Viburnum Prunifolium, and its Value in the Treatment of Dysmenorrhœa.* Dr. Theodore Sherman read a paper on this subject. He detailed his investigations into botany, chemistry, and pharmacology of the drug. He used the liquid extract evaporated down, and gave in capsules. The drug seemed to diminish reflex pain, to lower blood pressure, and to act as a uterine sedative. It was of great value in certain forms of dysmenorrhœa, in threatened abortions, etc.

Dr. William Craig said he had for years maintained in his lectures its pre-eminent value in abortion, and had used it in his practice.

Professor A. R. Simpson said he had frequently used it with good effect in certain cases of early abortion, and in dysmenorrhœa of non-obstructive forms.

Dr. Haultain thought it was a direct uterine sedative, and was of value in the first stage of labor, in after pains, in dysmenorrhœa with clots, and in abortions where there was pain and a little hæmorrhage.

*A Rare Form of Abortion: Expulsion of the Amniotic Sac, with Retention of the Chorion and Decidua.* Dr. F. W. N. Haultain, in his paper on this subject, showed three illustrative specimens. Case 1. Amniotic sac of the size of a large orange, no embryo, cast off from a patient believed to be three months pregnant. The decidua and chorion were removed some days later for uterine hæmorrhage. Case 2. Amniotic sac of the size of a large goose egg, containing embryo about the eighth week of development, granular *débris*, cast off from a patient supposed to be three and a half months pregnant. The decidua, with chorion attached, was removed seven weeks afterwards for symptoms of profuse constant watery discharge and irregular hæmorrhages. Case 3. Amniotic sac of the size of a turkey's egg, embryo about the eighth week of development, but he was unable to give a clinical history. These specimens were of interest on account of their want of description in popular midwifery works, and the thus scanty knowledge of the possibility of the occurrence of such a form of abortion. The mechanism of production from the specimens shown undoubtedly pointed to: (1) Pre-existing disease and death of embryo, with, in the first two cases, a continued increase of liquor amnii. (2) Detachment of the amniotic sac from the chorion, thus forming an intrauterine foreign body, setting up uterine contraction by irritation. (3) Rupture of chorion with expulsion of the sac, the adherent chorion remaining attached to the still vascularized and healthy decidua. (4) Occasional continued growth of decidua, lined by chorion. This, when cast off, forms a variety of the so-called carneous mole, and accounts in many instances for the



presumed absorption of the foetus so commonly met with in these moles. The condition was clinically interesting, as showing how abortion might take place with a minimum of detachment of the decidua, and thus a minimum of hæmorrhage.—*Abstract of Report Brit. Med. Journal.*

#### POST-MORTEM CÆSAREAN SECTION, WITH DELIVERY OF A LIVING CHILD.

Sudden death of the mother during labor, if the child is living, makes it obligatory upon the attending physician to endeavor to rescue the infant.

Two causes of maternal death are especially fatal to the foetus. One in traumatism, resulting in severe hæmorrhage to the mother, and the other is an infection, producing high fever and profound intoxication. Sudden death in labor from heart-lesions or from mechanical injury, without great hæmorrhage, gives conditions most favorable for the survival of the child.

The time for accomplishing delivery in these cases is necessarily brief. A recent case is reported by Hoffman, in which in an eclamptic patient he describes the delivery of a living child by abdominal and uterine incision ten minutes after the mother had ceased to breathe. It may scarcely be supposed that a longer delay than this could be borne by the foetus. Where high temperature is present, the time must be necessarily briefer in which successful delivery may be accomplished.

A recent case may serve to illustrate the foregoing remarks :

The patient, Mrs. L., aged twenty-six years, a primipara, had been in good health during her pregnancy. A few days before her death she had summoned her physician with the complaint of headache, restlessness and nervous discomfort. Shortly afterward, while sitting with her family, she was suddenly seized with convulsions, and soon became unconscious. Her physician was at once summoned, and applied the usual method of treatment for subduing the eclamptic seizures. I saw her in consultation about six hours after the first attack. She was then in deep coma, with a high temperature and labored breathing. Vaginal examination disclosed the membranes unruptured, the cervix obliterated, and the os about three-fourths dilated. It seemed to me possible to rupture the membranes, complete dilatation with the hand, and apply forceps, as the vertex was presenting. While hastily preparing the forceps, the patient was seized with a convulsion, at the close of which she expired. I hurriedly asked whether the family desired that an effort be made to save the child, and was informed that such was their wish. As the patient was a large, stout woman, and her bed so placed that she could not be put into position for the use of forceps without considerable difficulty, the quickest method of delivery seemed abdominal incision. Accordingly, while one of the physicians held a light, the abdomen and uterus were rapidly opened, and a

male child, weighing seven pounds and twelve ounces, was extracted. The child was asphyxiated, but speedily revived and breathed naturally.—Edward P. Davis, M.D., of Philadelphia, in *Medical News*.

#### THE TREATMENT OF THE STUMP OF THE UMBILICAL CORD.

In his new book on the "Therapeutics of Infancy and Childhood," Dr. A. Jacobi says :

"In wrapping up the end of the cord no oil must be used. Warmth and dryness favor mummification ; moisture and exclusion of air, gangrene. This holds good also for the cord when it is separated from the living baby by an additional ligature, and in the dead. Thus, the former forensic axiom that a dry cord proved life, which prevailed for decades after Meckel had demonstrated its fallacy as early as 1853, is absolutely worthless. Thus, fatty substances and moisture of any kind must be avoided as much as possible. Powdered subnitrate of bismuth, or oxide of zinc, or iodoform, or salicylic acid, one part with ten parts of starch, may be dusted round the insertion of the cord and over the stump daily. The latter application is not necessarily useless (from the point of the view of antiseptis), for the separation of the cord is a gradual one, and not uniform through the whole thickness of the amnion and the three blood-vessels.

"The size of the sore stump and the rapidity or slowness of cicatrization depend upon the thickness of the cord, the intensity of the line of demarcation, and the reactive inflammation. The latter are most marked in vigorous infants. As a rule, the surface is dry a few days after the falling of the cord, and cicatrization complete within twelve or fifteen days after birth. This normal process is, however, disturbed by careless handling, local irritation, and infectious influences. In these cases there is a serous or purulent secretion, and cicatrization may be deferred for many weeks. Under these circumstances local treatment is required. Carbolic acid ought to be avoided, for the newly-born and the infant are easily influenced by its poisonous properties. Solutions of lead, zinc, or alum answer quite well. As before, however, I recommend the powders of zinc oxide, bismuth subnitrate, alum with starch, and salicylic acid with starch, or iodoform. Such measures will always prove helpful ; to omit them in time of erysipelas or diphtheria is unpardonable. Perchloride of iron, or sulphate of iron, must not be used. Under the hard coagulation formed by its application over the whole wound secretions will accumulate, cannot escape, are absorbed, and produce sepsis. I have seen babies die from applications of iron to the umbilical stump, as I know of women dying for the same reason when the hæmorrhages from their uteri or from the lacerated vagina were maltreated in the same manner."—*New York Medical Journal*.

## SURGERY

IN CHARGE OF

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AND

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### WHY IS THE ABDOMEN OPENED IN THE MIDDLE LINE?

The *Lancet*, November 30, 1895, contains an article on this subject by Mr. F. Winson Ramsay. Text-books on abdominal operations, he says, always recommend the linea alba as the proper site for the incision, or, in default, the linea semilunaris. From this fact, he says, one would naturally suppose that there must be some great advantages to be obtained from opening the abdomen in one or other of these situations. On inquiry he finds they are as follows: (1) Vascularity is low in the middle line, and therefore the hæmorrhage is less. (2) There are fewer and less important structures to cut through. (3) There is greater facility of access to all parts of the abdominal cavity. As regards the first, this advantage is imaginary and is really a disadvantage, for, although the abdominal wall is more vascular in other situations, yet there is never any hæmorrhage in incising the abdominal wall elsewhere but what can be easily and speedily controlled, and, moreover, it is this absence of vascularity which tends to delay rapid and permanent healing, and therefore predisposes to hernia. The second is also a disadvantage; for the whole depth of the incision being through tendinous or fibrous layers having a great similarity to one another renders it difficult, especially to young operators, to know exactly the depth of the incision. The third is the only valid argument that can be used in favor of the median incision, and is theoretical rather than practical.

A disadvantage of the median incision is that, should it be necessary to extend it upward, the umbilicus comes in the way, and, as it cannot be rendered aseptic with certainty, it has to be avoided and the incision deflected, while some operators remove the umbilicus entirely. This being so, asks the author, is there any situation in the abdominal wall which offers further advantages without these disadvantages? Mr. Ramsay thinks so, and that the ideal incision for abdominal section is one vertically



through the middle of the rectus muscle on either side, and for the following reasons : (1) Although the parts are vascular there is no hæmorrhage ; if the epigastric artery is cut it is easily secured, and this vascularity tends to rapid and efficient healing. (2) There is no injury to the muscle, for after the fascia is divided the muscular fibres are easily separated with a director and retracted. (3) The incision can be made in any part of the muscle and continued up to the ribs or down to the pubes in the same manner. (4) The umbilicus gives rise to no inconvenience. (5) The layers are so well marked that it is impossible with ordinary care to wound the viscera. (6) Access to all parts of the abdominal cavity is just as easy as in the middle line (this, the author states, he has found from experience, while in some cases, where tubal or ovarian disease is known to be only on one side, it is an advantage to have the incision slightly on that side). (7) The scar left looks as if there had been a skin incision only ; it does not pucker or dip in like the ordinary scar, and the separate layers are not coherent. (8) Most important of all, if the wound is properly closed the risk of hernia is reduced to the least possible minimum. The best method is to close the wound with silkworm-gut sutures, running through all the layers. These are placed *in situ* and held by forceps ; then the peritonæum and posterior layer of fascia are brought together with fine silk sutures, either continuous or interrupted, and then the anterior layer of fascia in the same manner. This brings the muscle firmly together, making the passage through its fibres valvular, restores the natural thickness of the abdominal wall, and prevents coherence of the fascial layers, leaving the abdominal wall in as good a condition as before the operation. Should temporary drainage be essential, the necessary sutures should be placed *in situ* and marked with knots. They can then be drawn and tied accurately when the tube is withdrawn. Even if drainage has to be continued for some time, the track running through a thick wall will close better and more firmly, and be less likely to give way afterward. Mr. Ramsay says that he has adopted this incision during the past two months in five cases—viz., two ovariectomies, one tubal gestation, one pelvic abscess, and one cholecystotomy—and has found that these advantages claimed are real and practical. He is convinced that if some surgeons of higher standing than himself would give this matter their careful consideration this incision would be generally adopted, and that students would be taught that the one place to be avoided in opening the abdomen is the linea alba.—*New York Medical Journal*.

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#### THE DANGERS OF MURPHY'S BUTTON.

A compilation recently published of several cases where the intestine was united by the Murphy button gives interesting data

as to the practical effect of this appliance. In one case, where death occurred with symptoms of obstruction, the opening of the button was plugged with hardened fæces. In another, the button was removed by a second operation from the *proximal* side of the anastomosis. Again, death occurred from intestinal gangrene at the site of the button, possibly from the manner in which it was applied (too close approximation of the edges), or its extreme size and weight. In another case the button was found on the proximal side of the end-to-end resection at the autopsy. In two cases of gastro-enterostomy the button was found after death in the stomach—one patient living ten days, the other two or three months. It is evident from the above that the danger of retention of the button is a real one, notwithstanding the successful cases reported. Its principal claim is that it can be applied rapidly, which is true. This will restrict its use to those cases where the most rapid operation possible is indicated, where speed is required at all hazard, and other risks must be ignored on account of the limited time at the disposal of the operator on account of the condition of the patient. The button itself is an appliance which should be properly made, and the technique of its application thoroughly understood. There can be little question that the use of the larger Murphy button is, in the hands of most operators, safer than anastomoses by suture in cases where the condition of the patient renders haste necessary. But, on the other hand, it is for just this class of cases that the anastomoses by absorbable plates—the bone plates of Senn, or the vegetable plates advocated by Dawbarn—have been devised. Anastomosis by these plates takes very little more time than by the Murphy button, and has the advantages of providing a free opening, and of being free from the danger of remaining on the proximal side of the anastomosis as a foreign body in the stomach or intestine. Again, the danger of producing pressure gangrene of the opposed edges is greater in a mechanical appliance of the size and weight of the button, and its unyielding metallic catch will allow no relaxation of its grip, if once too firmly made. Over the lateral or end-to-end anastomosis by suture alone the plates have the advantage of greater ease and rapidity of application, a fact which renders their use the method chosen in the majority of cases which fall into the hands of the average surgeon. To recapitulate, then: although we must admit that when the patient is capable of sustaining a long operation and the surgeon possesses exceptional skill in dealing with these cases, anastomosis by suture is the ideal method, for the majority of cases, in the hands of the average surgeon, Senn's plates are to be preferred. The use of the Murphy button has been shown to possess inherent disadvantages which should restrict its use to those cases in which it is necessary to hasten in order that the patient may survive the shock of the operation.—*The Boston Medical and Surgical Journal*.

## ABDOMINAL SECTION FOR GLÉNARD'S DISEASE.

An interesting paper on this subject by Mr. Frederick Treves appears in a recent number of the *British Medical Journal*. Glénard's disease is a curious abdominal disorder, known also by the name of "abdominal ptosis," and "viscero-ptosis." It depends, in the main, upon a relaxation of the abdominal wall and of the supporting ligaments of the viscera, as a result of which the more conspicuous organs are found to have dropped to a lower level in the abdomen. The affection is usually met with in women. No definite causes have been assigned to it, although some attach an etiological importance to repeated pregnancies, to undue exertion, and to injuries.

It is stated that the right bend of the transverse colon is the first to descend; the stomach is then drawn down, with the result that the pyloric opening is compressed and the passage of food hindered. In due course the rest of the transverse colon descends, the jejuno-duodenal orifice is narrowed, and a further obstruction is offered to the passage of alimentary matters. The whole mass of the small intestine becomes prolapsed, the lower part of the abdomen is prominent, and possibly pendulous, while the upper part is flattened. The liver and kidney become loose, and are described as "floating." Certain it is that the kidney becomes movable, and the liver is found to occupy an unduly low level.

This general ptosis produces general asthenic symptoms, general depression, and general ill-health. There is a sense of "weight" in the abdomen, and a sickening "dragging." There is pain in the back, and a continued sense of weariness. Gastric symptoms are prominent—vomiting, pain, loss of appetite, distress from food, and more or less definite dyspepsia. The bowels are irritated; there may be diarrhoea or constipation. The stomach and intestines are very apt to be found dilated, and pressure upon the bladder may be complained of. The symptoms usually ascribed to movable kidney may be present. Colic is common, and may be now and then acute.

In neurotic subjects these symptoms are exaggerated, and may be rendered extravagant and inexplicable; a condition is engendered which is considered by many to be fitly described as neurasthenia. The affection, at least, is classified among the disorders of the nervous system.

The symptoms are, more or less, relieved by pressing upon the lower part of the abdomen with the two hands, or by wearing a supporting belt. Many patients are unable to move about until they have adjusted their supports or bands.

A case is recorded of a young lady about twenty-two years of age who had been ill for six years. The illness began with an acute abdominal disturbance, which had been ascribed to an ulcer in the stomach or to



ulceration in the small intestine. She was never well after the illness. The symptoms were, in a general way, in accord with those associated with Glénard's disease. There were evidences of continued catarrh of the bowel. Abdominal pain was almost incessant. Vomiting was common, and the vomited matter was usually intensely acid. It sometimes appeared to be composed solely of very acid gastric juice. There were considerable digestive disturbances, and still greater trouble with the bowels. The patient became much enfeebled.

The abdominal troubles were increased by movement and by the erect position. The patient was most comfortable, and, in fact, only comfortable, when she was lying down. The right kidney was found to be "floating," and was successfully fixed by suturing three years after her illness began, and the symptoms which were directly attributable to it entirely disappeared. Every form of diet was tried, she visited many health resorts, was subjected to the Weir-Mitchell treatment by isolation, massage, and special feeding. She became worse rather than better. She had for some time been compelled to wear a belt, and was, indeed, unable to stand or move about without great discomfort unless the belt was in position. The belt was gradually increased in power and substance, until finally it consisted of a large shield-shaped metal plate, to which two steel levers were attached, and by means of which the plate was made to bear pressure upon the lower part of the abdomen. When in position it caused the pulse in the lower limbs to be modified. Without the steel support the patient could not move about.

When examined in the recumbent position the area of the liver dullness was normal, but in the erect position the liver was found to have descended about two inches. The stomach also, and the whole mass of the intestines, appeared to descend downwards. There was a certain amount of resistance, with pain and tenderness over the region of the transverse part of the duodenum. The spleen shared in the general ptosis. The left kidney could not be felt. When in the erect position, much complaint was made of pressure upon the bladder.

The opinion was formed that unless some speedy relief was obtained the patient could not live.

The abdomen was opened in the mid line below the xiphoid cartilage. The liver protruded, and could be dragged down to a remarkable degree. The stomach occupied a lower level than usual. The great omentum was rolled up into a round and rigid cord, and was fixed to a mass of stony hardness in the upper part of the right iliac region. A second incision was made directly over this mass, and it was found to be made up of a collection of old tuberculous glands situated in the mesentery of the ilium. These were removed. Two of them were dry and caseous, and presented

calcareous foci; the third gland was wholly calcareous, and was, indeed, practically a stone. It was about the size of a peach stone. The attachment of the omentum was severed and numerous ligatures applied. The stomach, which was fixed before, could now be drawn up to the upper wound. The spleen was very mobile, and the transverse colon was entirely below the level of the umbilicus. About the descending part of the duodenum there were some vague adhesions. Other slight adhesions implicated the coils of the ilium on the right side.

Nothing unusual was found in connection with the small intestine, the cæcum, or appendix. Three short ligatures were employed to secure the liver in place, in the region of the falciform ligament and umbilical fissure. The most important stitch was passed through the liver near its edge, and penetrated the broad ligament, which afforded a most substantial holding. The stitches above were passed through the fibrous structures of the parieties by the side of the xyphoid cartilage. The two parietal wounds were closed; the operation occupied an hour and a half.

The patient made an excellent recovery. The troubles dependent upon the ptosis vanished. The liver remained perfectly in place. She could walk about without discomfort, and without the aid of artificial support; the gastric symptoms almost entirely disappeared. She still had some intestinal pain, which may have been dependent upon adhesions, or some narrowing of the bowel itself.

The course of events in this case was probably as follows: There was some tuberculous ulceration of the bowel, followed by tuberculous gland disease, with adhesion of the omentum, and gradual dragging upon the stomach and the transverse colon. It would be interesting to know if, in other examples of Glénard's disease, there is an actual causative lesion, as in the present instance.

As an examination of the abdominal organs is usually made when the patient is recumbent, it is difficult to say if this ptosis of the viscera is common. Should the condition be sought for, it may prove to be more common than is supposed. In the next place, it would be desirable to ascertain if the mere dropping down of the viscera must of necessity lead to the train of symptoms described at the commencement of this article, or if it be not possible for a patient to exhibit a degree of ptosis, and yet be the subject of no troublesome symptoms.

## LABORATORY NOTES.

IN CHARGE OF

**JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,**

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist to Toronto General Hospital and Home for Incurables.

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### NECROSIS-PRODUCING BACILLUS.

*Source.* The bacillus was first obtained in coverslip preparations, lying in considerable numbers in the necrotic tissue, found as the result of inoculating a rabbit subcutaneously with a small piece of a peculiar pseudo membrane removed from the pharynx of a young male cadaver.

*Morphology.* Coverslips from the necrotic tissue show rather large rods, long, and often sharply recurved, often jointed. From cultures in glucose-agar it is obtained somewhat greater in diameter, but otherwise similar.

*Physiology.* Anærobic. Grows in a deep stab in glucose agar, as minute spherical, semi-translucent, isolated colonies, increasing little in size after the first day. Neither spores nor motility has been observed. Stains readily with aniline water and gentian violet. Does not produce gas or glucose-agar. Grows at 37°C, not on gelatin in cold. Capable of transference from tube to tube.

*Pathogenesis.* The necrosis resulting from the inoculation of the piece of pseudo-membrane subcutaneously, above referred to, affected but a small area of the subcutaneous fascia. It descended through the sheath of the erector spinar muscle and extended anteriorly and posteriorly, destroying the muscle tissue and converting it into a white, soft homogeneous mass, confined by the sheath.

In a guinea pig a similar necrosis had occurred at the site of inoculation, but more limited, probably on account of the early stage in which the guinea pig was killed for examination. In a third animal, a rabbit, inoculated from the guinea pig subcutaneously, near the spine, a firm ridge could be traced from the seat of inoculation downward to the middle line of the abdomen, from which point it could be traced forward and backward. Examination showed that the vertical ridge and its horizontal extension presented a necrotic area, in which, as in the other animals, the necrosed tissue was white and completely disorganized. At the linea alba,

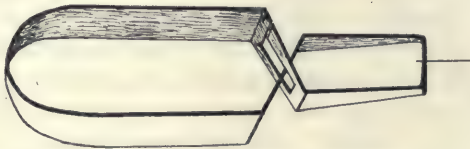


loculi, containing almost clear fluid, occurred, and in the neighborhood of the groin there was considerable œdema. No secondary lesions were discoverable in any of the so far experimented-on animals. W. H. HILL.

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#### COVER-SLIP FORCEPS.

Although the cover-glass forceps of Cornet and various modifications of these have served a good purpose, they have been defective in some respects. The jaws have been made to grasp the glass at such an angle that staining fluids readily run down the arms of the forceps, and reach the fingers. Moreover, they have been so constructed that sideways slipping, with consequent upsetting or breaking of the cover-slip, is frequent. The forceps, of which the accompanying cut is a representation,



appears to overcome these difficulties. The grasping jaws strike the glass exactly at right angles, and being at least half an inch in length no escape of stain is possible. Side slipping is prevented by cutting a slot in one blade and making the other to play in it. These forceps are made from my designs by J. Stevens & Sons, Wellington St. west, Toronto.

JOHN CAVEN.

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#### A NEW BACILLUS ISOLATED FROM THE HOUSE FLY.

In the course of some experiments upon the house fly as a medium of wound infection, a number of forms of bacteria have been isolated, and amongst these one in particular, which appears to be a new form, and which we have studied in some detail and now report.

Among the problems attacked was that relating to the bacterial inhabitants of the alimentary tract of the fly. The technique was simple. The fly was disinfected by ether or alcohol, followed by flaming, and the abdomen opened with sterilized scissors, and the alimentary tract withdrawn with fine-pointed forceps, or else the posterior part of the body was seized with sterilized forceps, and the gut pulled out. The mass, excluding the rear part of the body, was dropped into bouillon, and incubated at 37° C. In twelve hours the tubes were always turbid. Gelatine and agar plates were poured, and five different forms ultimately separated, amongst them that now described. The flies investigated were taken

from a number of different localities, and this form was found in seven out of nine. We have labelled it fly bacillus No. 1.

## DESCRIPTION OF ORGANISM.

Where found : In alimentary tract of house fly.

Form and arrangement : Bacillus ; short ; round ends ; length,  $2-8\ m$  ; width,  $7-1.0\ m$ . Occurs as single, pairs, short threads.

Mobility : Very active.

Temperature relations : Grows well from  $22^{\circ}\text{C}$ . up to  $42^{\circ}\text{C}$ . opt. about  $36^{\circ}\text{C}$ .

Rapidity of growth : Bouillon turbid in twelve hours at room temperature ; pellicle forms in twenty-four hours.

Spore formation : Absent.

Relations to atmosphere : Aerobic ; facultative anaerobic.

Gas production : Produces a large amount of gas in glucose media.

Liquefying power : Does not liquefy gelatine.

Color production ; Produces yellow pigment on agar and gelatine.

Pathogenesis : Non-pathogenic for guinea pig and rabbit when injected subcutaneously. After intraperitoneal injection the rabbit loses flesh for a time, and becomes inactive ; recovery after a few days.

Color reactions : Stains readily with anilin ; decolorizes in Gram.

## CULTURES.

(1) Bouillon. Cloudy in twelve hours ; develops no color at any period. White pellicle, which breaks up readily, and falls on shaking, forms on surface in twenty-four hours.

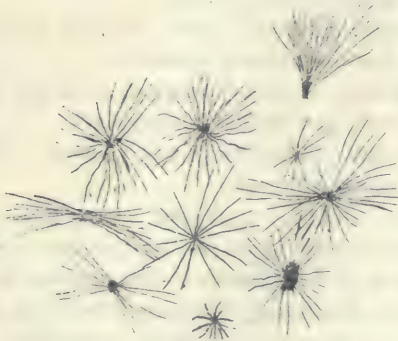


FIG. A.

(2) Gelatine. Plates : Surface colonies round, white changing to yellow, smooth, moist, even ; beneath surface a peculiar asteriform growth, formed of fine lines radiating from centre ; (see Fig. A.) no color, no liquefaction ; colonies resemble in form the stellate veins of surface of kidney.

Tubes.—*Stab*: Surface growth early; gradually developing yellow color; stab tapering with fine hair, like processes growing from its sides; no liquefaction.

*Slant*: An even band develops rapidly and evenly in line of streak inoculation; fine hair, like processes spread from sides of it; yellow color develops.

(3) Agar. *Plates*: Surface colonies round, small, moist, yellowish tint, definite sharp margins; beneath surface colonies resemble teased out bunches of moss (See Fig. B.), not more compact in centre than at periphery; branching coarser than on gelatine, and not so sharply defined; yellowish tint.

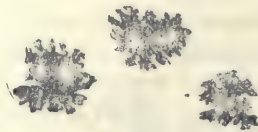


FIG. B.

Tubes. *Stab*: Surface thick, dead white, nothing characteristic; stab white, same size throughout; small fuzzy bunches projecting from sides of stab.

*Slant*: Thick, whitish, moist growth, the streak becoming oval in form, and the edge deeply indented like a comb; yellow color develops slowly. Growth invades substance of medium over whole surface for a depth of about one-eighth of an inch.

(4) Glucose agar. Tubes.—*Stab*: Surface growth strong; yellow color marked; gas produced abundantly.

(5) Glycerine agar. Tubes.—*Stab*: Growth more feeble than on plain alkaline agar, but otherwise the same.

*Slant*: Dead white; no color develops; margin shows branching; where surface is broken root-like branches invade.

(6) Potato. A dull yellow, heaped-up growth; indefinite margins; yellow color turns brown with age.

(7) Litmus milk. Turns red at first; coagulation occurs; red color disappears, but returns when tubes are kept in dark cupboard for a time.

The peculiar form of the colonies of this organism at once separated it out from all others in the plate. The forms described are constant, plates having been poured at intervals through a considerable series of generations. In many respects it resembles some of the proteus forms already described, but seems to differ in some features from all. Klecki, of Cracow, described a bacillus in *Annales de L'Institut Pasteur*, No. 9, Sept. 25, 1895, which he obtained from the intestine of a guinea pig, and cultures of which resemble somewhat those of the rod from the fly.



The fly bacillus shows a high degree of vitality cultures upon agar, having survived for a period of over six months in the laboratory cupboard.

JOHN CAVEN, M.D., AND WILLIAM GOLDIE.

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REPORT OF BACTERIOLOGICAL EXAMINATIONS IN CASES COMING TO POST-MORTEM TABLE, TORONTO GENERAL HOSPITAL.

CASE 1. Endocarditis septica. Cultures from perforated flap of mitral valve yielded the staphylococcus pyogenes aureus and two unidentified bacilli. Infarcts in spleen and kidney proved sterile.

CASE 3. Lobar pneumonia following typhoid. Coverslips and cultures gave a coccus, resembling micrococcus lanceolatus, in the lung ; cultures from spleen gave a bacillus resembling bacillus typhi abdominalis, and corresponding to it in ordinary tests.

CASE 4. Septic pneumonia, secondary to suppurative osteomyelitis of os calcis. Pure cultures of staphylococcus pyogenus aureus were obtained, ante-mortem, from discharge from os calcis. Intravenous injection of one culture, along with sterile potato scrapings, gave rise to general infection in a rabbit, with abscess formation in heart wall and in kidneys (cortex and medulla). Pure cultures were then obtained from heart's blood, spleen, and abscesses of heart and kidneys. Pure cultures of staphylococcus pyogenus aureus were also obtained, post-mortem, from patient's spleen and kidneys, from a bronchial gland (apparently healthy), and from abscesses in lungs.

H. W. HILL.

## Editorials.

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### OUR SELECTED ARTICLES.

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IT has been our custom, especially during the last two years, to publish certain selected articles which, on account of their rare merits, were well worthy of reproduction in THE CANADIAN PRACTITIONER. We are glad to know that many, if not all such, have been highly appreciated by our readers. Although these have been properly called "selected articles" in our table of contents, and in their proper section in the body of the journal, we regret very much that due credit has not always been given to the exchanges from which we have "selected." In our January issue we republished an article on "Neurotic Vomiting," by Dr. Robert T. Edes, of Boston, Mass., but neglected to give the name of the medical journal to which we were indebted for the same. We desire now to state that this article was first published in *The American Journal of the Medical Sciences* for September, 1895.

In the same issue we republished an article on "A Study of the Infectiousness of the Dust in the Adirondack Cottage Sanitarium," by Dr. Irwin H. Hance, New York, and made a similar omission as to the source from which we obtained it. Dr. Hance's article was first published in the *N. Y. Medical Record*.

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### VAGINAL vs. ABDOMINAL SECTION.

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WE publish in this issue an abstract of an interesting paper on the subject of "Vaginal versus Abdominal Section," read by Dr. W. M. Polk before the general meeting of the New York Academy of Medicine, and published in *The Medical News*, January 4, 1896. We give, also, a portion of the discussion which took place at the same meeting. At the last meeting of the American Gynæcology Society, May, 1895, Dr. Charles Jacobs, of Brussels, read a paper on this subject, giving his experience in 403 vaginal sections, with twelve deaths, *i.e.*, with a mortality of 2.9 per cent. He expressed the opinion that vaginal section was indicated in the following conditions—Uterine cancer, fibroids of the uterus,

extra-uterine pregnancy, total genital prolapse, inflammatory diseases of the appendages, chronic and incurable diseases of the appendages and of the uterus, diseases of the uterus after abdominal operations. (*The American Gynæcological and Obstetrical Journal*, June, 1895.) This paper appears to have created a great deal of interest, and many are the discussions on the subject which have taken place since it was read. Vaginal section, as a substitute for abdominal section, has been extensively practised since 1892 (when it was proposed in Brussels) by Jacobs, Péan, Pozzie, Ségond, Martin, Laudan, and others on the continent, with good success. On this continent, Polk, of New York, may be fairly considered the pioneer in this work, and, probably, its most able exponent.

As usual, in discussions on gynæcological surgery in the United States the various advocates of the two methods, in many instances, make remarkably divergent statements. For instance, Winter, with the object of ascertaining the frequency of ventral hernia after abdominal sections, watched 1,000 cases, and found that under the "ordinary method" of suturing the incision hernia followed in from 23 to 30 per cent. of the cases. Dr. Noble, at a recent meeting of the Philadelphia Obstetrical Society, said that in 200 abdominal operations, in which he had sutured the abdominal with non-absorbable sutures, he knew no case where hernia followed. We think most of our surgeons in Canada will, for a time at least, continue to prefer the abdominal, rather than the vaginal, section in the majority of cases. However, the work of Jacobs, Polk, and others, who have become experts in vaginal operations, will be carefully observed; and it is quite likely that time will show that the vaginal route is the proper one in a certain proportion of cases. We think that the weight of evidence thus far brought forward goes to show that that proportion will be less than one-half.

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#### THE EDSON CURE FOR PHTHISIS.

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WE reprint in this issue, from the *Medical Record*, Dr. Cyrus Edson's paper on his new discovery in the treatment of phthisis and other microbic diseases. We have recently seen Dr. Edson, and, from a personal interview, can assert that he does not claim that aseptolin can, or will, cure advanced phthisis, in which the greater portion of a lung has become useless. But he has cases of very far advanced phthisis where the treatment has held the disease in check, and the bacilli have disappeared from the sputum. It is in the cases of acute infection, when taken early, that he expects most, and, as one can see from a perusal of the article, his basis of treatment is on a principle that takes nature's action for its starting point. In certain advanced cases, where destruction



has not been extensive, a cure may be looked for, and the profession and the public generally will look forward to the results of treatment by this new method.

We have been favored with some of the aseptolin, and are at present using it in a few cases, and will give a report of our results shortly.

It is necessary to warn the profession against using any spurious preparation and expecting good results. Aseptolin will very shortly be placed on the market, and will have the stamp of Dr. Edson's laboratory, which will be a certificate of its genuineness.

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### THE ROENTGEN "X" RAY PHOTOGRAPHY.

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IT in no way discounts Roentgen's discovery to say that Hertz and Lenarder, three years ago, announced that a sensitized plate was affected by rays coming from an aluminum window in a tube of high vacuum. These scientists almost discovered what Roentgen recently demonstrated.

When Prof. Roentgen announced to the world, at the beginning of this year, that he had succeeded in discovering an "X" ray that would penetrate certain opaque objects and not others, and affect a sensitized plate, so that the image of the impenetrable object could be defined, it was at first looked upon with an amount of incredulity that was not astonishing.

He has demonstrated that it is possible to photograph through the flesh of the hand, foot, leg, etc., and see only the bony skeleton developed on the negative, unless there should be some foreign substance like a bullet, needle, glass, etc., present in the limb which will be made manifest.

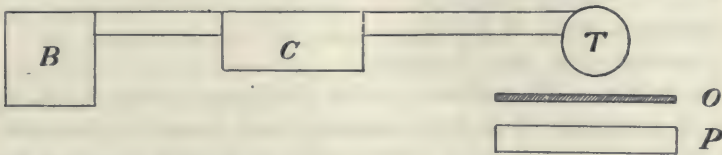
The lull in experimenting at the present time in America and England is occasioned by an absolute dearth of Crookes tubes, the supply having been exhausted within a few days after Roentgen's first announcement. The successful result can only be obtained from tubes of very high vacuum, and these can only be made by glass-blowers experienced in this particular branch. No such blowers are to be found in America.

The University of Toronto, amongst its quantity of Crookes tubes, was fortunate, indeed, in having a few that had the necessary shape and quality, and with these few Messrs. Wright and Keele, of the School of Practical Science, and Mr. McLennan, of the Physics Department of the University, have succeeded in making the greatest advance yet announced, and that is in reducing the time of exposure from minutes to seconds—a perfect picture having been accomplished in three seconds. The time for taking a hand, however, yet remains at several minutes.

We are experimenting, and hope at a very early date to show our

readers some of the practical uses that these new rays can be put to, and prove its practical applicability in medicine and surgery.

For the benefit of our readers who may have some erroneous ideas about the position of the tube, object, and sensitized plate, we append a rough diagram, and also point out that it differs from ordinary photography in a very essential particular, inasmuch as neither camera nor lens is used with the "X" rays. The sensitized plate is not exposed to these rays, as it is too light in ordinary photography, but these penetrate some object that is opaque to white light, yet quite transparent to the "X" ray, such as the cover of an ordinary plate-holder, black paper, etc., etc.



- B** is the battery from which the current is derived to pass through  
**C** the induction coil, which is connected with  
**T** the Crookes' tube. This tube is held in proper position by insulated connections, so that the "X" rays from the cathode pass through  
**O** which is the object to be photographed, the object resting on  
**P** which is a box, or plate-holder, having within it a sensitized plate.

#### ST. JOHN AMBULANCE ASSOCIATION.

A MEETING was held in St. George's Hall, Toronto, February 5, for the purpose of organizing a "Local Centre" of the St. John Ambulance Association. The gathering was large and representative in character, including prominent clergymen, physicians, military men, and charitable ladies.

Dr. G. Sterling Ryerson, the general secretary and medical director of the order for Ontario, explained that the St. John Association had been founded in 1877 by the Order of St. John of Jerusalem in England, and that in 1888 a charter was granted by the Queen, who is declared to be the Sovereign Head and Patron.

The objects of the association are : The instruction of persons in rendering first aid in case of accidents or sudden illness, and in the transport of the sick and injured.

The instruction of persons in the elementary principles and practice of nursing, also of ventilation and sanitation, especially of a sick room.

The manufacture and distribution by sale or presentation of ambulance material, and the formation of ambulance depots in mines, factories, and other centres of industry and traffic.

The organization of ambulance corps, invalid transport corps, and nursing corps.

And, generally, the promotion of instruction and carrying out works for the relief of suffering of the sick and injured in peace and war, independently of class, nationality, or denomination.

The method of instruction is a series of lectures, some for men only, some for women only, and the others for men and women. The subjects will include "First Aid to the Injured," and "Nursing and Hygiene."

The officers elected were :

Hon. President—Lieutenant-Governor Kirkpatrick.

President—Judge Kingsmill.

Secretary—Dr. C. R. Dixon.

Treasurer—Mrs. Wm. Boulton.

Committee of Management—Judge McDougall, Hon. R. M. Wells, G. R. R. Cockburn, M.P., Lieut.-Col. Davidson, Lieut.-Col. Mason, Capt. Law, R.N., Ald. Jas. Scott, S. Nordheimer, D. R. Wilkie, Judge Kingsmill, Walter Barwick, Herbert Mason, J. L. Hughes, Dr. A. H. Wright, Dr. G. A. Bingham, J. T. Small, Barlow Cumberland; Mesdames Kirkpatrick, Henry Cawthra, G. R. R. Cockburn, G. D. Dawson, G. W. Yarker, Grant Macdonald, Forsyth Grant, Wm. Boulton, J. I. Davidson, McLean Howard Ryerson, J. G. Hodgins, Melfort Boulton, Jas. Crowther, C. Egerton Ryerson, Mandeville Merritt, J. D. Hay, Wm. Mulock, Misses Catherine Merritt Wilkie, Margaret Greig Dixon.

#### BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE Local Executive Committee have drawn up a scheme of organization for the meeting of this association, to be held in Toronto in 1897. They desire all who are interested in the meeting to join the association. We take the following from a circular recently issued by the committee :

"Under the rules of the British Association, it will be necessary for every member of the Citizens' and all other committees to become members of the association.

"Annual subscribers pay, on admission, the sum of \$10, and in each following year the sum of \$5. They receive *gratuitously* the reports of the association for the year of their admission, and for the years in which they continue to pay *without intermission* their annual subscription. By omitting to pay this subscription in any particular year, members of this



class (annual subscribers) *lose for that and all future years* the privilege of receiving the volumes of the association *gratis*, but they may resume their membership and other privileges at any subsequent meeting of the association, paying on each such occasion the sum of \$5. They are eligible to all the offices of the association.

“Associates for the year pay, on admission, the sum of \$5; they do not receive *gratuitously* the reports of the association, nor are they eligible to serve on committees of the association, or to hold any office.

“The money derived from the subscriptions of members and associates belongs to the association, and is not available for any of the purposes of the Local Executive Committee.

“The Local Executive Committee have power to elect members of the association for the year 1897. The fee or subscription for membership will be only for 1897.

“A list of names has been prepared to form a Citizens’ Committee, which will be enlarged in the future.”

We understand that the officers and members of the association in Great Britain are taking a deep interest in the meeting, and will put forth great efforts to make it a success. His Royal Highness the Prince of Wales will be asked to accept the presidency. If he cannot attend, it is understood it will be offered to the Duke of York, Mr. A. J. Balfour, or Mr. Joseph Chamberlain; and it is expected that either Mr. Balfour or Mr. Chamberlain will accept. Mr. Griffiths, the secretary of the association, will come to Canada in May to confer with the Local Executive Committee.

## Meetings of Medical Societies.

### TORONTO MEDICAL SOCIETY.

THE regular meeting of the Toronto Medical Society was held February 7, 1896, Dr. Oldright presiding.

Dr. F. N. G. Starr reported a case of

#### BRONCHIECTASIS

in a woman aged 24, the disease being traceable back to an attack of typhoid fever six years previous. The cough, which was worse in the morning, was accompanied by an offensive expectoration. Opposite the eighth dorsal spine, three inches from the spine, cavernous breathing could be detected, which covered the size of half a dollar. An attempt was made to aspirate the cavity, but no fluid was obtained. An opening was made through the thoracic wall, but the cavity was not reached. The pleura was free. A second operation a little higher up was done. A needle was introduced, but nothing withdrawn but a little blood. Creasote was prescribed, and inhalations of oil of peppermint.

Dr. McPhedran, on his first examination of the case, inclined to the diagnosis of empyema. An area over the lower part of the chest was extremely flat, and the respiratory sounds were quite absent at times. After coughing, the respiratory sound returned, being strongly bronchial in character. The note, even then, was dull. The essayist was quite at a loss for an explanation of the phenomena. Perhaps if the operation had been done higher up more information would have been obtained. The position was very low for a bronchiectic cavity.

Dr. Price Brown referred to the two varieties of bronchiectasis—the ampullar and the dilated. In the case related, he thought probably an abscess cavity had formed, instead of there being an enlarged bronchial tube. In bronchiectasis the lining membrane was smooth and the cartilaginous portion of the tube was absorbed, as well as the mucous membrane. The enlargement would continue as long as the pressure on the inside of the wall was kept up. It was said to be a very rare disease. He thought this could not be said with regard to the tubular variety. Of

course, it was difficult to positively state that, because the patients live a long time, and it was rarely that a post-mortem was made subsequently, especially in private practice. He had seen a good many of such cases while in general practice in a town where a great deal of grinding and general manufacturing was done. They had what he took to be the tubular form of the disease. Patients suffered from chronic cough, which would abate until another cold would come. The expectoration was very profuse. In the examination of the chest one would find in the lower part behind bronchial breathing and large crepitation. This he attributed to the fact that they gave a history of sleeping on the back, the only position in which they could lie comfortably. They had little fever. The disease would last from five to fifteen years before they would succumb. The cough was not attended by putrid expectoration, as the disease was largely of the tubular variety. He related the history of an outbreak occurring in a manufacturing district where creasote was made, and how that when patients suffering from bronchiectasis went to work in the creasote manufactory their cough became cured. Personally, he had found creasote of much value. He had administered it in the form of carbonate of creasote one-half a dram three times a day. He thought creasotal was of much value.

Dr. Starr said that he was unable to explain why the note was flat over the cavity. He said that the material expectorated was largely mucous ; so that the mucous membrane must not have been destroyed.

Dr. Doolittle read a paper on

#### HYSTEROID.

On November 5, 1895, he was consulted by Mrs. D. about her daughter, aged 22, who was suffering from nervousness and headache. The headache began in the morning before rising, and increased during the day. It continued in severity until it became unbearable, when she would be seized with a spasm, which lasted three or four hours. She would then fall asleep with exhaustion. The family history was good. She worked in a departmental store near a heater, and was exposed to cold draughts from the door. Spasms at first appeared every one or two weeks, then more frequently, and at last twice a day, each lasting for several hours. She had a neurotic appearance. Examination of the eyes showed the presence of myopia and astigmatism, which were corrected by suitable glasses. The headache lessened ; the spasm grew less violent. Some time after he was called very suddenly to see her in a convulsion. The patient, hearing that he was entering the door, screamed out, "Don't let Dr. X. in." (She had been under treatment from Dr. X. just previous to this time.) This was the first time she had spoken during a fit. The doctor found two sinapisms over each ovary, which the young woman had



tried to remove with hot water on account of the pain. The cloth gave way, but left the material upon it on the abdomen. Dr. Doolittle prescribed a valerianate and -a bromide. The patient immediately became quiet. The next morning he was called to see her again in a convulsion. Dr. Graham was called in consultation, to whom the essayist suggested the propriety of trying the effect of suggestion. Spasms at this time were lasting from eight to twelve in the morning, and four to eight in the afternoon. She was in the position of opisthotonus. Although it was about 10.30 a.m. the remark was made that as it was now about twelve o'clock she would soon come out, and in a few minutes she became rational. Peripheral anæsthesia was general. Dr. Doolittle informed the mother that they had concluded that the daughter could be rapidly and permanently cured; that he would come the next morning shortly before eight, and administer treatment which would check the fit. Next morning he used the galvanic current for ten minutes. One electrode was placed on the neck, the other on the sacrum. This effectually prevented the spasm from occurring. As the time was too early in the morning for the doctor's convenience, and the trouble would not occur till ten o'clock the next day, he said he would be around before that time to check it. Next day, in the afternoon, while she was again suffering, he was called; administered electricity, and said that she would soon return to consciousness, and made certain sighing respirations which he told the mother she would notice when the patient was coming to, which was the case. Besides the suggestion, the electricity and the valerianate of zinc and nux vomica were given. A complete cure resulted. The doctor explained that he believed the condition resulted primarily from the eye strain. The correction of the optical defect lessened the trouble, but the hysteroid habit was so thoroughly established that additional means were necessary to check it.

Dr. Primrose read a paper on

#### THE SURGICAL TREATMENT OF EMPYEMA.

The essayist maintained that pus in the pleural cavity called for surgical interference, and the earlier the better. The means used should secure a complete evacuation of the pus, and prevent a reaccumulation of it. Neglect of this precaution would produce serious consequences. In early cases a simple incision of the chest wall may be employed, the site of the incision being determined by the position of the pus. Between the sixth and seventh ribs, in front of the posterior fold of the axilla, was the favorite place. Another position was between the eighth and ninth, external to the line of the angle of the scapula. Marshall advocated opening in the fifth space, on the ground that here empyemata tended to point only. Dr. Primrose questioned this. In considering the place for incision, one should remember that the cavity tended to close from below

upward ; therefore an opening from the lowest part was not desirable. He then described the technique of the operation, and called attention to the fact that one should be careful in raising the arm of that side, as it retracted the skin, so that after it assumed the natural position a valvular opening might be made. It was advisable not to wash it after the operation. A tube neither too rigid nor too soft should be used, and should not project too far in, as it created a certain amount of irritation, which tended to make the discharge persistent. Hæmorrhage was not likely to occur if the intercostal artery were severed straight across. If free drainage could not be effected by simple incision, one must then proceed to a resection of the ribs. In children the pleura seemed to separate more readily than in the adult, who more often had a transudate or serous effusion. In children aspiration cures much more frequently than in the adult. In the children the intercostal spaces were so narrow that it was almost impossible to effect sufficient drainage without resecting a portion of the rib. In support of this statement he quoted cases.

CASE 1. Child, four years of age ; illness of two weeks before entering the hospital. On the left side there was dullness, breath sounds absent below, tubular above. Sixteen ounces of pus aspirated from the sixth inner space. Temperature fell to normal. Child seemed to improve much, but the pus accumulated, and the chest was opened and drained. Recovery followed.

CASE 2. Child had been ill two weeks before admission. Dr. Thistle had seen the case, and aspirated on November 10, drawing off ten ounces of thick, creamy pus. The temperature went down, but rose again very shortly. The essayist resected one and a half inches of rib, evacuated large quantities of stinking pus. Drainage and recovery.

A patient was shown to the members, and a small sinus could be seen from which a little pus was escaping. The reader contended that if operative steps had been taken earlier the child would not still be suffering. The history was this : The child was admitted to Victoria Hospital, June 16, 1894. Had been suffering two months. Five weeks previous had been operated on and a tube inserted ; but not receiving proper home attention, and disobeying the advice of the surgeon, the tube came out and the pus reaccumulated. There was an extensive area of dullness of the left chest. Dr. Primrose made an incision along the fifth rib—three inches. Periosteum was peeled off, the intercostal artery secured, and a portion of the rib resected; the pleura was thickened, and a large quantity of nasty pus evacuated. The cavity was scraped out and sterilized. Patient did but fairly during the summer. A second operation was performed, when the recovery seemed to take place. But during the months which have elapsed since it has broken out two or three times, showing that the trouble still exists to a certain extent.

In long-standing cases, where the lung would not expand nor the chest collapse to obliterate the cavity, Estlander's operation was necessary. It consisted in removing enough of the ribs to allow the chest wall to collapse and obliterate the cavity. Gould had removed as much as fifty-four inches of rib in such an operation. A flap operation was usually done. The essayist pointed out the comparative merits of various incisions. He preferred the vertical. He outlined the different methods employed by different surgeons in removing the ribs. He related the history of a young man, aged 23, who had suffered from pneumonia, followed by pleuritic effusion. Aspiration had not relieved the condition. Abscess burst into the bronchus, and the patient became exceedingly miserable.

When the patient was lying down the cough and expectoration were troublesome, but on the patient standing up they would mitigate. Dr. I. H. Cameron did Estlander's operation. The patient took chloroform very badly, and was in a very weak state when the operation was done. A splendid recovery took place, however, the patient gaining twenty-one pounds in twenty-one days. Dr. McPhedran, who had seen the man on the date of this meeting, and had examined his chest, stated that the expansion of the chest was very fair. He considered the practical results of these operations extremely satisfactory. He had not seen satisfactory results from aspiration, but believed that the incision or resection and drainage should be performed at once. He spoke of the great difficulty of diagnosing pneumonia and pleurisy in children, as the signs were almost identical in the two conditions. The purulent pleurisy, he believed, instead of being a sequela, began at the same time as pneumonia. The leucocytic exudation was very prolific in children, although it might appear only to be a serous pleurisy at first.

Dr. I. H. Cameron upheld John Marshall's site of making the incision. In these cases he preferred the vertical incision, contrary to the old surgical rule of making the incision parallel to important structures. This greatly facilitated drainage. For a drainage he recommended a short silver tube, through which a soft rubber one might be passed. A tube projecting into the cavity acted as a foreign body, and, as Mr. Treeves had pointed out, was a travesty on the first principles of surgery. He pointed out the dangers of irrigation at first, on account of the presence of an epileptoid zone in the pleura. Of course, in old standing cases the pleura had been accustomed to irrigation, and there was not the same danger. He thought he had seen cases where a single operation had sufficed to effect a cure, but he agreed that the more radical operation was to be preferred.

He did not think it was necessary to remove the portion of rib from its periosteal envelope, and afterwards remove the periosteum. Both



could be removed quite readily together. It might be said that there was greater danger of hæmorrhage by doing this, but he doubted it. He drew attention to the pyogenic powers of the pneumococcus, which would account for the co-existence of empyema with pneumonia.

Dr. Reeve, in drawing attention to the different kinds of pus, said that there might be some analogy between its formation in larger cavities with that in smaller ones. It was often found in hypopyon; a considerable quantity of pus would completely disappear in a short time by the process of chemotaxis. Then there was another variety in which the pus was septic. These cases, unhappily, did not proceed so favorably, and very often required opening and drainage, and, perhaps, irrigation of the anterior chamber.

Dr. Carveth, Dr. Oldright, and Dr. Harris also discussed the paper. Dr. Primrose closed the discussion.

The meeting then adjourned.

## Book Reviews.

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### DON'TS FOR CONSUMPTIVES ; OR, THE SCIENTIFIC MANAGEMENT OF PULMONARY TUBERCULOSIS.

The above is the title of a book which, under the authorship of Dr. Charles Wilson Ingraham, will soon (about February 10) be issued by the Medical Reporter Publishing Co., of Rochester, N.Y.

The complete work of thirty-five chapters is devoted exclusively to the general management of pulmonary invalids, no reference whatever being made to drug treatments.

The object of the author is to supply the physician with a practical work, and, at the same time, by eliminating technical terms, reduce the text within the easy comprehension of the intelligent patient. With this book in the hands of his patient the physician will be relieved of a multitude of details which attach to the successful management of such cases. Price, \$1.75.

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### MANUAL OF LIFE INSURANCE EXAMINATIONS. By James Thorburn, M.D. Edin., Emeritus Professor of Pharmacology, University of Toronto ; Consulting Surgeon, Toronto General Hospital ; Medical Director, North American Life Assurance Company, etc. Second edition, Toronto, 1895.

This is the second edition of this very useful and interesting manual, the first of which was published in 1887. The work, in the first place, was specially prepared for the convenience of the medical examiners of the North American Life Assurance Company ; but, we understand, many examiners in various other life insurance companies have used it with profit. It contains a great deal of valuable information, given in a plain and concise way, and ought to be especially useful for examiners who have had only limited experience. This second edition has been carefully revised and largely amended. We think it would be well for the publishers to make arrangements whereby any members of the profession could procure the book. The printers have done creditable work, but a more substantial cover would be desirable in a future issue.

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### A MANUAL OF THE PRACTICE OF MEDICINE. By George Roe Lockwood, M.D., Professor of Practice in the Women's Medical College of the New York Infirmary, etc. Philadelphia : W. B. Saunders.

The author states that in this manual it has been his aim to present the essential facts and principles of the practice of medicine in a concise and

available form. In the arrangement of the subject-matter the classification of Osler has been adopted.

The pages upon the treatment of diphtheria and its complications are very good. He devotes considerable space to the antitoxin treatment, and gives some specific directions regarding the injection of the serum. No mention is made of any ill results following such injections, and one would infer from the concluding paragraph on treatment that Dr. Lockwood approves of the systematic use of the antitoxin in all cases.

This work, of over 900 pages, is very neatly gotten up, and well printed. Although it seems somewhat large for a concise work, still, we think that nothing superfluous will be found in its pages. The author cannot be held responsible for the largeness of the field he has to cover. In our medical schools manuals do not find as great favor with the students as in some other schools where the larger text-books are neglected. We have no doubt that students who use manuals will find this one very satisfactory.



## Medical Items.

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DR. W. A. DIXON, who practised for a time in Toronto, has settled in Chatham.

DR. S. G. T. BARTON, of Toronto, has removed from Bloor street to 16 Charles street.

DR. D. GIBB WISHART, of Toronto, has recovered from a severe attack of typhoid fever.

DR. WESLEY ROBINSON, of Markham, has been appointed associate coroner for the county of York.

DR. F. H. JOHNSTON, of Burford, has been appointed an associate coroner for the county of Brant.

DR. G. P. SYLVESTER has purchased Dr. Sheard's interest in *The Canada Lancet*, and will be its business manager.

DR. R. K. KILBORN, superintendent of the Kingston General Hospital, has resigned, and will engage in private practice in Kingston.

DR. HERBERT A. PARKYN, formerly of Toronto, has been appointed Professor of Hypnotism in the Illinois Medical College, Chicago.

WE are glad to hear that Dr. John A. Burgess, of Toronto, who is taking a holiday, and spending some time in the South (New Orleans and Mexico), is much improved in health.

*The Canada Medical Record*, of Montreal, has changed hands and gone under a new management. It is now owned and edited by the Faculty of Medicine of the University of Bishop's College.

DR. JOHN F. GILMOUR, of Toronto Junction, for some time registrar of the county of York, has been appointed warden of the Central Prison, Toronto. There has been some friction lately between certain officers and subordinates in the prison, and Dr. Gilmour has been chosen on account of his tact and ability, by the Ontario Government, to bring about peace, harmony, and effective discipline.

DR. R. J. WADE was entertained at a banquet by his friends in Brighton, where he is practising medicine, in honor of his election to the position of warden of the counties of Northumberland and Durham. He is the youngest man who has occupied the position. He graduated in Trinity University, Toronto, in 1888, and was one of the assistants in the Toronto General Hospital, 1888-9.

AT a meeting of the Board of Governors, February 17, Dr. James Third was appointed superintendent of the Kingston General Hospital. Dr. Third was a student of Trinity Medical College, and graduated in Toronto and Trinity Universities, 1891. He spent one year as resident assistant in the Toronto General Hospital. He commenced practice in Trenton in 1892, and was still in that town at the time of his appointment.

## OBITUARY.

DR. GEORGE DUNCAN.—Dr. George Duncan, of Embro, died, after a short illness of two days, January 15, 1896, aged 76. He became a Licentiate of the old Medical Board in 1832, and practised at Embro for over fifty years. He was very popular on account of his genial disposition, and highly respected on account of his skill in his profession.

THOMAS W. READE, B.A., M.D., C.M.—Dr. Thomas W. Reade died at his home in Niagara Falls, February 10, after a short illness from pneumonia, aged forty-five. He was educated at Trinity Medical College, and graduated in Trinity University in 1874. After graduating he practised for a short time in Toronto, and then went to London, where he remained a number of years as resident assistant physician to the Asylum for Insane. In 1886 he went to Niagara Falls, and practised there with success up to the time of his last illness.

WALTER THOM, M.B. (Tor.).—We have to announce with deep regret the death of our young friend, Dr. Walter Thom, which took place at his mother's residence, Dunbarton, January 29, 1896. He graduated in the University of Toronto in 1895, after taking the regular course of four sessions. He developed tubercular pneumonic phthisis, which was first discovered in January, 1895. It ran a rapid course, and, during the examinations in April, 1895, a severe hæmorrhage occurred. Dr. Thom was much weakened by this, and never rallied, although at one time last fall he seemed to pick up a little. The apparent improvement was short-lived, however, and was followed by a rapid decline. During his student days he was a room-mate of Dr. Merritt, whose sad death occurred a few months ago in Scotland. Ont. Dr. Thom was well known to the teaching staff of the University as an excellent student, and was deservedly popular with his fellow-students.

JAMES MCLAREN WALLACE, M.D.—Dr. Wallace, of Port Elgin, died at his home February 17, 1896, from apoplexy. He was born in Scotland, and received his medical education at Glasgow. After graduating he practised a few years in Newcastle, and came to Canada in 1861. After practising several years at Spencerville, he was appointed superintendent of the Orillia Asylum in 1876. The following year he was appointed superintendent of the Asylum for Insane in Hamilton, and retained that position until 1887, when he resigned on account of failing health. He was 59 years of age at the time of his death. As a general practitioner he was highly successful; but, we understand, his regular work in the asylums over which he was made chief officer was more to his

taste. He was generally recognized as a man of ability and integrity, although ill-health, during the last years of his life, prevented him from taking any prominent part in the medical world. He left a family of four sons, three of whom are doctors, and two daughters.

WILLIAM RYERSON WADE, M.D., C.M.—A very able and successful young physician died in Parry Sound District under exceptionally sad circumstances. Dr. W. R. Wade, of Dunchurch, P.S.D., contracted a very severe cold in the latter part of January. On the morning of January 31 he was suffering from a sore throat and general prostration. While in this condition he received a call to visit a patient thirty miles distant; and, contrary to the advice of friends, responded as cheerfully as was his custom in such cases. He got back to his home with much difficulty, and went to his bed very seriously ill. His brother, Dr. R. J. Wade, of Brighton, left his home on Monday evening and reached Dunchurch on Tuesday morning. He at once sent an urgent message to Dr. G. R. McDonagh, of Toronto, to come up by that afternoon train. Dr. McDonagh left Toronto at 1.10 p.m., reached Sundridge about half-past eight in the evening, and then drove twenty-five miles, over rough roads and through snowdrifts, to Dunchurch, arriving about midnight. Notwithstanding the fact that a vigorous treatment was carried out, the patient grew rapidly worse. The breathing became so labored that Dr. McDonagh tried intubation, without any good effect, however, and finally performed a tracheotomy. The latter gave some relief, but this was only temporary, and death occurred about 9 o'clock on Wednesday morning.

Dr. W. R. Wade was born in the county of Northumberland in 1863, and was therefore in his thirty-third year at the time of his death. He received his medical education in Trinity Medical College, and graduated in Trinity University in 1888, after having obtained the highest honors at his various examinations. In the summer and fall of the same year he took a full post-graduate course at the New York Polyclinic. He went to the Parry Sound District in 1889, and his speedy success at Dunchurch may be inferred from the fact that he made three thousand dollars during the first year. A man of splendid physique, there appeared to be scarcely any limit to his powers of endurance. He never spared himself, but responded to all calls, from rich and from poor alike, from far and near, at all times, and in all sorts of weather. He won gratitude and love from his patients, and the highest respect from the general public. No more popular man lived in that large Parry Sound District. He was in politics an enthusiastic Conservative, and was unanimously nominated as the candidate of his party for the next Dominion election at a monster convention at Emsdale in January, 1895. The two Wade brothers took their medical courses together, and graduated in the same year. In this issue it has given us great pleasure to refer to the success of the one who lives in Brighton, and now, in writing this obituary notice, a few days after, it causes in us inexpressible sadness to chronicle the death of the other, who was doing such grand work in Muskoka and Parry Sound.



# THE CANADIAN PRACTITIONER

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## Original Communications.

### ASTHMA.\*

BY THE LATE H. J. SAUNDERS, M.D.,  
KINGSTON.

I INTEND in the following paper to record a few of the cases of asthma that have come under my notice during the past year. in which I have endeavored to ascertain the exciting causes of the attacks. They also serve to illustrate some of the vagaries of the disease in its etiology and course.

Up to the present time, I am afraid we cannot congratulate ourselves upon much practical advance in our knowledge of the nature of this affection. That it is essentially a spasmodic condition of the muscles of the smaller bronchi, by which both the entrance into and exit from the air cells of air is impeded, but especially the latter, is generally believed, and also that this spasm is due to irritation of certain nerves, of which probably the pneumogastric and phrenic are the principal; but how this irritation is

\* Read at the meeting of Canada Medical Association, Kingston, Ont.

produced we have, at present, no knowledge. The discovery of certain pathological forms in the sputa, such as Leydin's crystals and Curschman's spiral fibres, although interesting, throws no light on the subject, and I do not think these can be regarded as any other than faulty secretions, the result of deranged innervation. There have been numerous classifications made of the disease, but it appears to me that they can all be included under three heads, according to the apparent provoking cause, viz.: (1) Irritation of the terminal filaments of the vagus nerve, either in the respiratory passages, particularly the nasal, or in the digestive tract, the stomach probably chiefly; (2) irritation of the main trunk of the nerve itself; (3) irritation of its origin in the brain. Of these three causes, the first two are decidedly the most common, and are frequently combined, as is illustrated by some of the cases I have recorded. The last, or purely nervous form, in which the paroxysm occurs independently of any local irritation, is probably rare, and, I am inclined to believe, will be found to be more uncommon the more thoroughly we are able to investigate the conditions in each of our patients under which an attack occurs. (I may here remark that I am leaving out of consideration altogether those cases of so-called asthma in which puerile breathing is present, indicating an absence of bronchial spasm, as in the "hæmic asthma" of some writers, and cardiac asthma. These, which are commonly due to some fault in the blood itself, or its circulation, on account of which it is unable to absorb sufficient oxygen for the requirements of the system, should not be regarded as asthma at all, but are better described as dyspnoea.) Although, as I have said, the purely nervous cases of asthma are, I believe, rare, yet there is probably in all cases a faulty nervous constitution, for in no other way can we account for certain causes producing attacks in some individuals that to most of us are innocuous; e.g., nasal polypi and vegetations frequently exist without the subjects being asthmatic, and exposure to nasal irritants, such as ipecacuanha and various odors, though sufficiently strong to excite violent sneezing, will yet fail to excite asthma, except in the few. The hereditary character of the disease and its frequent association with neurotic affections, such as neuralgia, hysteria, etc., in other members of the same family, show this. One of the most remarkable and perplexing characteristics of the affection also, its sudden and unaccounted origin at various ages, and persistence thereafter, can hardly be explained in any other way. Almost equally inexplicable is sometimes the suddenness and completeness with which the disease sometimes ceases, as in the following case:

Mrs. S., æt. 62. First attack of asthma when about thirty years of age, while pregnant; after that had frequent and severe attacks, often lasting, with exacerbations and remissions, for several days, occurring especially on

the approach of wet weather. These continued till about six years ago, when they suddenly and completely ceased, and have not recurred, although she has undergone a great deal of mental and physical suffering, consequent on the sudden death of her husband, the illness of her daughter, and cataract of both eyes, which has rendered her unable to go about alone for the last two or three years, until they were operated on by Dr. Connell a couple of months ago. As illustrating the nervous origin of this case, it may be mentioned that one of her daughters suffered from asthma until after her marriage, when she removed to Calgary, where she was free from it, but suffered again while in Kingston two years ago, and I am told she still has occasional attacks at Fort Macleod, where she is now resident. Another daughter for many years suffered from a form of hysterical vomiting after meals, unassociated with pain or any other indication of disease of the stomach. In the above case I could detect no apparent cause for the cessation of the disease, as it took place several years subsequent to the menstrual climacteric, and there was no change of residence or habits to account for it.

The origin of the disease is as perplexing often as its cessation. Many patients can assign no cause whatever for the first attack, yet having once become subject to it the disease persists, and this first attack is often abrupt and complete, and as severe and characteristic as any subsequent ones. I have noted a few cases illustrative of this.

W.B., æt. 36. Car inspector on Grand Trunk. First attack three years ago. Previously healthy. Family history free from asthma. Attacks most common during July and August; not influenced by weather. For the rest of the year is free from any tendency, and can work as much as any man, but while subject to attacks will certainly have one if obliged to work hard immediately after a meal. If he can rest for an hour will not have one. Find attacks more likely to occur after certain articles of food, especially meat.

Mrs. G.H.B., æt. 37. First attack seven years ago. Has had asthma every year since during the summer, the attacks usually beginning during June and lasting until the frost sets in. This year (1894) attacks did not begin till August 10. They are induced and aggravated by food of any description, however small in quantity; even the white of an egg, or a sip of milk, or a mouthful of bread, will cause a feeling of a load in the stomach and aggravation of the asthmatic paroxysm. She is consequently obliged to nearly starve herself, and during her asthmatic season becomes very thin and emaciated. Her residence is in a marshy neighborhood. Has been told that she has gastric catarrh, and been given pepsin and other digestive aids, but without benefit. Has been told to avoid starchy, saccharine, and greasy foods, but has not found that the first two have any special tendency to cause attacks.



Mrs. A., æt. 55. First attack when 41, and since then has suffered severely every summer. Residence in marshy neighborhood. Thin and spare in habit. Is worse in wet weather. Attacks usually terminate in diarrhœa, attended with great tenesmus and mucous intestinal discharge, and I have frequently noticed the two conditions alternate, the asthmatic being relieved when the dysenteric symptoms appear, and *vice versa*. Two sons of this patient were asthmatic, one until he was seven or eight years old, since which he has been free from it. A daughter shows at present no tendency.

The above may all three be regarded as "hay asthma," but hay asthma does not differ from ordinary asthma, except in the cause being somewhat more definite. I have selected them to illustrate the unaccountability of their commencement, and also because they show some of the vagaries of the disease in the mode in which attacks may be induced. They show, moreover, that even in those forms of asthma in which the cause apparently acts on the respiratory passages, the influence exerted by the condition of the stomach is equally great, and that bronchial spasm is caused just as much by irritation of the gastric termination of the vagus as by irritation of the nasal or bronchial terminal branches.

It is interesting and instructive to note what trivial things may excite or allay attacks of asthma. Slight changes of locality, such as the removal of a patient from one part of a town to another, and even in a house a difference may often be observed by removing a patient from a small, close room to a large, airy one. A case I saw last year was an instance of this.

A.D., æt. 6, has, since infancy, been subject to asthmatic attacks, especially when living near the river bank, but was free from them whilst living in Fergus. She is now living in North Toronto, and her mother noticed that she had attacks every evening after watering the lawn; when this was discontinued the attacks ceased.

It would be easy to multiply cases of this description; most of us can from our own experience cite similar ones, where an influence so slight as to be overlooked by the careless observer may be the determining cause of an attack. A very large proportion of asthmatics can tell precisely what circumstances will bring about an attack. It is not surprising that a disease having so many and such varied causes of attack should be relieved by varied and often apparently opposite therapeutic measures, or that one lasting, as it does, usually for many years, and often through a lifetime, should, in course of time, resist methods that were effectual in its earlier history. It must, however, I think, be confessed that ample as our experience of it is, and numerous as are the drugs, new and old, made use of, we have not advanced much, either in its alleviation or cure. Of some of

these I propose to say a few words. First, as to the locality. As it is a disease that of itself rarely causes death, we have no statistics, that I am aware of, to point out its frequency. Yet I am satisfied, from my own experience, that it is exceedingly common all along our lake front, and I think especially so where the soil is heavy and clayey, less so where it is light and sandy. Moisture is an especially exciting cause, and many of my patients who have suffered severely when living near water have been comparatively exempt on removing to a distance from the water. Hyde Salter, whose elaborate work is perhaps the most thorough in its investigation into the exciting causes of this affection, after relating many cases which were benefited by residence in smoky cities, while suffering severely in country places, remarks of one case: "Here we plainly see what air offends most; it is that of low, damp situations abounding with vegetable life; and any air free from these conditions is beneficial, whether seaside or dry inland." I do not wish to detain you by going into details which have been gone into by him and others, but I must express my conviction that most, if not all, cases of asthma are relievable by change of locality. What this change should be must be determined for each individual case; some may be better by the seaside or at sea, others in high elevations, and only a careful study of each can well enable us to decide which kind of climate is suitable; but I believe that if local sources of irritation are removed, such as nasal growths, where these are present, and digestive excitants, such as special articles of diet found to disagree, or over-eating avoided, that a locality might be found for each case where the individual might live in comfort free from his disease. This is probably the most potent curative agent we possess, but, unfortunately, it is not in many cases available. Want of means or inability to leave one's business or employment are often inseparable obstacles, and we are thrown back upon the use of drugs. These are employed with two objects: the prevention of attacks, and their relief.

For the first purpose, there are but few drugs that are of much service. Iodine of potash has long been used with this object, but I must confess that I cannot, from my own experience, say that I have seen any benefit from its use in the majority of cases. In some few it may have mitigated the attacks or prolonged the interval between them, but in most has been of little or no benefit. For the relief of the attacks the number of remedies is as various and incongruous as the causes of the disease, and there would be little object in my taking up your time with enumerating them. Briefly, they are useful in one of two ways, either by their narcotic influence allaying the spasm by lessening the sensitiveness of the nerve involved, as is done by morphia, chloroform, bromides, and the different varieties of datura; or by their sedative and depressing effect, instances of

which are seen in the action of lobelia, grindelia, and tobacco. I think all or nearly all the drugs that have been found serviceable in asthma may be included under one or other of these heads, either narcotics or depressants ; and, further, that to obtain beneficial results it is necessary that they be given in sufficient quantity to produce their physiological effects ; *i.e.*, if a narcotic, as morphia, is given, it must be in sufficient dose to act as a hypnotic ; if a depressant, as lobelia, the dose must be large enough to act as a nauseant, or emetic, to produce the best results. Within the limits of this paper, I cannot consider the various drugs in detail, as it would take up too much of your time, nor do I think it would be of much service, as nearly every case of asthma that we meet with has undergone treatment with many drugs, and in many cases the patients themselves have found out by experience what will give the most ready relief, and each have some pet nostrum to which he has recourse when suffering from an attack. I will, therefore, in concluding, merely point out what should be our general line of treatment, leaving the discussion on particular methods for the experience of those present.

(1) As to preventive treatment, our first care should be to seek for and remove all sources of irritation as far as possible. The nose and pharynx should be carefully examined for polypi, adenomatous growths, and evidences of catarrhal trouble. Where dyspeptic trouble is present, it should be treated, and careful enquiry made as to the effect of special articles of diet, the patient being warned to avoid those that are found liable to provoke attacks, and generally to be careful not to overload the stomach. Where the attacks are confined to certain seasons of the year, as in hay asthma, and the means will allow of it, change of air should be recommended, and if there are no special indications a dry elevated atmosphere should be preferred, such as is met with in the Adirondacks, and, as I have said before, I believe that in almost every case a locality can be found in which the patient can live free from attacks, though it is not possible in every case to predict what will be a suitable locality. Of specific prophylactic medicinal treatment, we can hardly be said to possess any.

(2) For relief during the attacks, morphia given hypodermically in a full dose is probably the most efficient remedy we possess, though its unpleasant after effects and the danger of producing a morphia habit may often be great objections to its use. The various patent nostrums, which usually consist of nitrate of potash, mixed with some variety of datura, are often efficacious, the vapor from the burning drug being inhaled. The list of drugs that have been used, however, I do not propose to enumerate, as it would be needless, and extend my paper far beyond the limits I have laid down for myself, which were rather to seek in the causes producing the disease the means of relief than to discuss its therapeutics.



## THE SURGICAL TREATMENT OF EMPYEMA.\*

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PUS within the pleural cavity is a condition which calls for surgical interference. It would appear from one's experience that the earlier suitable measures are adopted to evacuate the pus the better, and the risk of serious consequences is greatly increased by delay. Further, the means employed must be of such character as to ensure an early and complete evacuation of the pus and the prevention of a reaccumulation. There can be no doubt that neglect of these precautions, delay in adopting them, or failure in providing efficient drainage, will, in the vast majority of cases, lead to the most disastrous results, resulting in an almost intractable form of disease, which calls for an extensive and dangerous operation, or may bring about fatal consequences.

I do not propose to deal in this paper with the causes and symptoms of the disease, but will merely deal with the treatment by surgical procedure.

The principles which guide one in treating an accumulation of pus within the pleural cavity are the same as those observed in treating collections of pus elsewhere in the body, modified somewhat, however, by the circumstances that we have in empyema to deal with a rigid chest wall and an expansile and elastic lung.

Simple incision of the chest wall, through an intercostal space, *i.e.*, the operation of *thoracotomy*, may be employed. The site of the incision must be determined according to the position of the collection of pus. If it be general in the pleural cavity, a favorite seat for incision is in the sixth or seventh space, just in front of the posterior fold of the axilla. Other positions for the incision are the eighth or ninth space, just external to the line of the angle of the scapula, or in the fifth space, just external to the cartilages. The opening in the sixth or seventh space has the advantage of a thin covering of the soft parts, and the space is wider than more posteriorly, but that in the eighth interspace is probably most frequently employed, and has been found very efficient.

\* Read before the Toronto Medical Society.

The opening in the fifth space was advocated by Dr. John Marshall on the ground that here an empyema tends to point naturally. The chest wall is very thin in this locality, and the pleura is not so well supported as elsewhere. The point indicated is external to the rectus, above the external oblique and internal to the serratus magnus, whilst it is in front of the external intercostal muscle. It is questionable, however, if an empyema does tend to point here, and the experience of surgeons is that the locality does not possess the advantages claimed for it.

When the collection of pus is localized, the point of incision will depend on the position of the accumulation, and will be made in such a position as to insure efficient drainage from a dependent opening.

In considering the place for incision, one must remember that the cavity, upon opening, tends to close from below more rapidly than from other points, and, therefore, an opening in the lowest part of the pleural cavity is not the most suitable. This is taken into account in advocating the localities mentioned above.

The operation must be carried out with strict antiseptic precautions. The patient should lie on his back, and not on the sound side ; the latter position is apt to interfere seriously with respiration. In order to make the site of operation more accessible, the patient is brought near to the edge of the table. The arm is raised ; but, before doing so, the position of the rib should be marked, in order to avoid a valvular incision, which one is apt to make in consequence of the superficial parts being pulled upwards by the elevation of the limb. An incision, from an inch and a half to three inches in length, is made over the upper border of the rib, and the pleural cavity opened ; the pus is allowed to escape slowly, and the finger should be inserted to aid in bringing out any thick, flaky material which may be present. It is not necessary to wash out the cavity ; in fact, it is not advisable to do so, at the time of operation at all events ; the procedure is not devoid of danger. A tube is inserted, and this must be arranged so as to provide for efficient drainage. The tube should be as large as the intercostal space will admit and should project inward just beyond the costal pleura ; a shield should always be provided, attached to the outer extremity of the tube, so as to prevent the tube slipping in, and being lost in the cavity. The writer once assisted Mr. A. Pearce Gould, of the Middlesex Hospital, London, to remove a piece of rubber drainage tube six inches long from the pleural cavity ; the tube had slipped in, and disappeared in the cavity during the treatment of an empyema, and had remained in the cavity for some months. The shield of a vulcanite tracheotomy tube answers the purpose well ; a rubber drainage tube, sufficiently rigid to prevent collapse, may readily be

attached to this. Lateral openings in the part of the tube which lies in the thoracic wall are harmful ; they permit penetration of the tube and occlusion of it by granulation tissue, and serve no useful purpose. When the discharge has somewhat subsided, but has not stopped, it is serviceable to wash out the cavity once or twice daily with boracic lotion, or with tincture of iodine one in one thousand parts of water, or perchloride of mercury, one in ten thousand. If the cavity refuses to close completely, a counter opening may be necessary to secure more thorough drainage, and to facilitate the flushing process.

As a rule, one finds that the more efficient way of treating an empyema by operation is to incise and remove a portion of a rib. Judging by one's experience, it would appear that in children this is the only way of treating the condition in an efficient manner. In childhood the intercostal spaces are too narrow to admit a drainage tube of sufficient size, and one is inclined to believe that an attempt to drain in young children, without resection of a rib, entails a loss of valuable time ; the success of one's treatment depends largely upon the promptitude with which one establishes thorough and free drainage, and this cannot be accomplished by simple incision without removal of the bone. The removal of a portion of a rib is easily accomplished. The periosteum is divided in the long axis of the rib, and is stripped off by a periosteal elevator ; the rib is then severed by bone pliers, or with the aid of a Hey's saw. The saw is used to partially cut the bone, and the section is completed with the pliers ; a portion of rib, say, an inch and a half in length, is removed. It is well now to dissect out the periosteal bed, because the new bone formed from it is apt to be irregular in shape, and becomes a source of inconvenience later. The pleura is now incised, and a drainage tube inserted, with the precautions already mentioned. If bleeding occurs from an intercostal artery, one finds that the most severe hæmorrhage always accompanies *partial* severance of the vessel ; consequently one should see that the vessel is completely divided. The bleeding does not give rise to much trouble as a rule.

The condition of empyema in children deserves special consideration in this paper. In children the pleura seems to suppurate more readily than in the adult. A grown person may have a dry pleurisy or serous effusion, whilst in a child, under similar conditions, pus is formed. It is stated by most writers on the subject that aspiration will frequently cure an empyema in a child. The writer has never succeeded in effecting a cure in this way, and practitioners of large experience have found such a procedure uniformly unsuccessful. There can be no doubt but that aspiration in the adult is useless waste of time ; that is, if employed for the purpose of effecting a cure. It may be permissible as a temporary means



of relief in severe dyspnoea, but should be followed at once by an operation for the establishment of efficient drainage. Aspiration is usually performed in the mid-axillary line in the sixth or seventh interspace. The operation need not be detailed here. Care should be taken that the needle is sufficiently long to reach the interior of the cavity, and one must avoid injuring the lung with the needle-point. One is inclined to believe that in the vast majority of cases aspiration will fail in children as it does in adults. There can be no doubt that the best results are obtained in those cases which have been operated upon early. The advisability for early and efficient operative interference cannot be too strongly urged, and this applies to children as well as adults. The moment pus is detected in the pleural cavity means should be adopted to secure drainage. The precise form of operation will depend on what may be found necessary to accomplish this. In children it will entail resection of a rib, and in the adult incision, and possibly also the removal of a piece of bone, depending on the size of the intercostal space.

The two cases of which I now give you a short account illustrate the good results which usually follow early operative interference in children :

CASE 1. G. McC., æt. 4. History of illness extending over two weeks before admission into Hospital for Sick Children. Over left chest there was an extensive area of dullness ; breath sounds absent in the lower part of chest and tubular in character above. The left side of chest was almost motionless during aspiration. I aspirated and drew off 16 oz. of creamy pus ; there was some odor, but not very fœtid. The aspiration was done in sixth interspace in the mid-axillary line. The temperature, which had been elevated, fell to normal, and child seemed much improved. On examination of the chest there was no dullness, and the breath sounds were normal. Subsequently, however, pus reaccumulated, and Dr. Thistle (in my absence from the city) opened the chest and drained for a short time, after which the child was discharged cured.

CASE 2. G., æt. 3. Had been ill about a fortnight before admission in November, 1894, to the Toronto Hospital for Sick Children. Dr. Thistle aspirated the chest on November 10, and drew off 10 ounces of thick greenish pus. The aspiration was done in the sixth interspace, just in front of the posterior axillary fold. The temperature, which had been elevated, came down, but in forty hours began rise to again, and dullness reappeared, and the condition of the child was as bad as on admission.

On November 13, I resected one and a half inches of the sixth rib in front of the posterior axillary fold ; a large amount of stinking pus came away. A dressing of moist gauze under a piece of protective was applied.

The child was discharged about two weeks afterwards with condition apparently cured. Shortly after, however, Dr. Thistle, who saw him in private, found it necessary to insert a drainage tube. The discharge soon ceased again, and has not recurred.

The disastrous results which follow in neglected cases are very apparent. Let me narrate such a case.

CASE 3. T. S., æt. 4. Admitted to Toronto Hospital for Sick Children, June 16, 1894. History of illness for two months before admission. Five weeks previously he had been operated upon in private. An incision had been made one inch below and to the left of the left nipple, and a drainage tube inserted in the intercostal space. The tube, however, "came out" after a few days, and the drainage was very imperfect subsequently. On admission there was a small sinus opening in the position indicated above, from which exuded stinking pus in small quantities. The opening was not free, and the pus came away chiefly when he coughed. There was an extensive area of dullness over the left chest.

On June 29, 1894, I operated, assisted by Dr. Clingan. An incision was carried backwards along the fifth rib from the fistulous opening for about three inches. The rib was exposed, periosteum divided and peeled off by means of a smooth elevator. A Hey's saw was used to partially sever the rib; the division was completed by means of bone pliers, and then an inch and a half of the rib was removed. The periosteal bed was now dissected out, the intercostal artery being divided in the process and secured. Up to this point the pleural cavity had not been opened; the thickened pleura was now incised, and thick, stinking pus, containing flaky material, was poured out in large quantities. On introduction of the finger a large cavity was found. In all directions the limits of the cavity could just be reached with the index finger introduced full length. The cavity was now flushed out with sterilized water. After thorough flushing the finger was again introduced, when it was found that the lung had expanded considerably, and portions of it were lying quite against the opening. One could readily pass the finger behind it, however, and the cavity was, by no means, completely obliterated. It should be noted that the position of the child was somewhat altered between the two digital examinations, and this, no doubt, aided in bringing the lung more in contact with the chest wall. A drainage tube provided with a shield was inserted and fixed in position.

The child was in the Lakeside Home during the summer; the temperature ran an irregular course, and the discharge varied in amount. About four weeks after the operation, the discharge being very scanty, the house surgeon removed the tube; the temperature began at once to rise, reaching  $104.4^{\circ}$ , and the tube was replaced. The child remained in the hos-

pital during the autumn, and late in September the tube was removed without any appreciable effect upon the temperature, which still ran an irregular course, however, and the sinus did not close satisfactorily, but a small amount of discharge would come from it from time to time. In January, 1895, I again put the child under chloroform, and thoroughly scraped the sinus, but found no collection of pus. The sinus healed after this, and shortly after the child left the hospital.

In June, 1895, the patient was again admitted into the hospital with a discharge from the sinus. The mother was told that a further operation was advisable, but she would not consent to it, and the child was discharged after a few days. The present condition of the child (twenty months after operation) is that a sinus still exists. This heals up and remains closed for a month or two, and then breaks down and discharges again for a short period. There is no doubt but that a limited cavity still exists which is not completely obliterated, and in all probability this will not heal until a portion of the rigid outer wall is removed by operation.

The operative procedure which has proved of value in long-standing cases of empyema is that which is known as *thoracoplasty*, or Estlander's operation. This operation is called for chiefly in neglected cases, in which the early interference advocated in this paper has not been adopted. Inefficient drainage has prevented closure of the cavity; the lungs, under such circumstances, remain in a contracted condition; the pleural walls become greatly thickened, and exist as rigid structures; the pleura may sometimes be as much as an inch thick. We can imagine that, under these circumstances, such a chronic case having presented itself, one has endeavored, by establishing free drainage, to obtain a cure; the lung remains unexpanded; the chest wall retracts as much as possible; the diaphragm rises to an exceptional position; and still the space remains unobliterated. Nature, unaided, is unable to effect a cure; the continued discharge weakens the patient, and eventually a fatal result ensues. It was for such cases that Estlander, in 1879, advocated a formidable operation calculated to provide relief for these apparently hopeless cases. Gould, in 1888, advocated this procedure, and published several cases treated successfully after this fashion. The principle upon which the operation depends is the removal of the rigid outer wall of the abscess, including the bone and the thickened pleura. A special operation is planned for each case, depending on the extent of the cavity to be obliterated. It is held that almost the entire outer wall of the abscess cavity, with the ribs covering it, must be removed in order to secure success. Gould reports a successful case in which he excised portions of nine ribs, including a total length of fifty-four inches of bone. This operation



should not be lightly undertaken ; it is an extensive and dangerous one, to be thought of only in cases which are otherwise incurable. The incisions advocated by different surgeons are as follows : Estlander recommends an incision along an intercostal space, from which the rib above and below the space is removed, the length of rib depending on the extent of the cavity. Several such incisions may be necessary, according to the vertical extent of the empyema. Godlee recommends a V- or U-shaped flap in order to expose the ribs. Barker advises an incision along the course of a rib, from which three ribs may be attacked. Gould employed a vertical incision. This last method is found very serviceable in such cases, and allows of sufficiently free access, with a minimum extent of wound. The details of carrying out the operation must necessarily vary in different cases ; the principle is the same in all, namely, to remove the outer rigid wall, and to allow, in consequence, of retraction of this wall, with obliteration of the cavity. The effect of such an operation may best be illustrated by the narration of a case in which the good results obtained by interference with the rigid wall are well shown.

CASE 4. F. C., æt. 23, admitted to Toronto General Hospital, October 10, 1893, under the care of Mr. Cameron, suffering from empyema. The patient's family history is to the effect that his father died of pneumonia, mother died of Bright's disease, an uncle of phthisis, and a grand-uncle of stonemason's lung. Four years before admission the patient was strong and healthy, and was working as "gripman" on cable cars in Montana ; the air of the locality was contaminated with noxious gases from smelting works. On January 24, 1891, he was chilled when on his car ; he was taken home, and has been sick ever since. Pneumonia developed, and was complicated with pleuritic effusion. Aspiration was performed six times in six weeks, and on one of these occasions the pleural cavity was washed out ; in the others the cannula became plugged : the left side of the chest collapsed.

In the summer of 1891 he went to Barrie, and received much benefit by the change of air, his general health improving ; but the improvement was only temporary, and in October a sinus opened in the sixth left intercostal space in the nipple line, and pus continued to discharge from it up to the time of admission in the Toronto General Hospital in October, 1893. The discharge varied in character, being thick and thin by turns, and usually offensive. He lost flesh rapidly, and was troubled much with profuse perspiration, and was very weak. He had a constant cough, and profuse but difficult expectoration. His pulse was frequent, the temperature normal. In the latter part of 1891, and in the early part of 1892, he attended as an out-patient in the Toronto General Hos-

pital. His chest was examined by auscultation, there was absence of breath sounds on the left side ; the apex beat could be seen under the right nipple.

Resection of the ribs was advocated at this time, but the patient would not consent to operation ; he was therefore put on special treatment, taking Fellows' syrup of the hypophosphites and cod-liver oil internally, and instructed to take certain breathing exercises. He spent the greater part of the day in the open air, and kept his bedroom window open all night. As a result of this treatment, the cough decreased, the sweats almost stopped entirely, and his appetite improved. Moreover, his left lung expanded considerably, so that his left shoulder, which had been depressed, had risen nearly to the horizontal, and his vertebral column, which had been deflected away from the affected side, had nearly recovered its normal position. Air now entered the upper part of the left lung. His weight, which had been reduced from 175 to 135 lbs., increased to 145 lbs. He now attempted to work and tried to split wood ; the result was that discharge increased, and became streaked with blood.

During the summer of 1892, which he spent in Barrie, he gained strength, and in August the sinus closed, and remained closed until January, 1893. He was employed during this time as clerk in an office ; the close confinement did not agree with him, and he began to lose weight. In May, 1893, a doctor in Toronto attempted to insert a drainage tube, but the patient choked under the anæsthetic and the operation was not completed. During his whole illness there had been more or less œdema of the hands and feet, and his finger-tips are markedly clubbed.

He was admitted to the Toronto General Hospital for operation in October, 1893. Examination of the chest at this time revealed the following condition : The right lung was apparently healthy ; the breath sounds were pleuritic in type. Inspection of the left side revealed a depression of the infraclavicular and mammary regions. On palpation there was marked vocal fremitus above the level of the fourth rib ; below this point it was absent. Percussion gave a resonant note above the fourth rib, dull below. The same conditions were found at the back at the same level. Bronchial breathing was heard over the upper portion of the lung, while just above the fourth rib it was cavernous. Below this level the breath sounds could not be heard. The sputum contained no bacilli. The apex beat of the heart was diffuse, the mitral sound being best heard in the fourth interspace of the right side, two inches from the middle line. The urine contained phosphates in abundance.

The condition of the patient immediately before operation was extremely unsatisfactory. He was emaciated to an extreme degree. The sinus discharged freely when he walked about, but almost ceased when

he lay in bed. The expectoration when in bed was very copious and offensive, and was composed of pus ; the amount of expectoration, on the other hand, diminished when he walked about.

Chloroform was administered on October 25, 1893 ; the administration was extremely difficult and dangerous ; the empyemic cavity apparently drained into the lung when the patient was recumbent, and the pus collected in the air tubes and choked the patient. Moreover, the cough was much aggravated by the chloroform vapor. The moment the patient was completely under, the cough stopped and the pus blocked the trachea, and cyanosis supervened. An attempt was made to render the surface anæsthetic with ethyl-chloride, but this was only partially successful, and the operation was proceeded with whilst the patient was only partly under the influence of the anæsthetic.

An incision was made nearly vertical, but somewhat obliquely from above downwards and inwards, near the nipple line, from the fourth to the ninth ribs. The edges of the incision were held aside by ligature retractors. The sixth and seventh ribs were bared of periosteum, and by means of a Hey's saw and cutting pliers about two inches of each rib were removed. The thickened pleura within was now freely opened, and a large quantity of thick foetid pus escaped. The patient's pulse, which had been very feeble up to this time, improved at once. The seventh rib was extraordinarily thick ; my notes state that it was as thick as the middle of an adult ulna, and of quadrilateral shape on section.

On introducing the fingers into the wound the cavity was found to extend downwards to the diaphragm, about a finger's length, not quite as far forwards to the mediastinum. The lung could be felt high up, just within reach of the finger ; the limit of the cavity posteriorly could not be reached with the finger. The cavity was washed with 1-20,000 bichloride of mercury, and a tracheotomy tube placed in position. A drainage tube was fixed in position.

A note made a week after the operation was to the effect that the condition of the patient had vastly improved. The cough was much diminished, and expectoration not one-fifth what it was before operation. His appetite was excellent. He made an excellent recovery ; he gained twenty-one pounds in weight in twenty-one days ; the discharge diminished, and the cough had almost disappeared when he left the hospital.

I met the patient in June, 1895, nearly two years after the operation ; he was then a motorman in charge of a car on the Toronto Street Railway. He informed me that he was in excellent health, and had been in the employ of the street railway for eighteen months.

I had an opportunity of examining this patient to-day (two years and four months after operation). The cavity has never opened since the



sinus closed after operation. There is a saucer-shaped depression on the side of the chest about four inches in diameter; the bottom of the saucer is formed of bone, the periosteum left having allowed of this formation. The cavity is completely closed, and the patient's health is fairly good; he is actively employed at work as motorman on one of the cars of the Toronto Street Railway. The man was practically in a dying condition when operated upon, and the operation was completely successful in bringing about closure of the cavity and in saving his life.

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Since reading the above paper the patient has died. I examined him on the morning of the day upon which I read my paper; he was apparently in his usual state of health. Next day, however, he became ill and sent for his physician; he was suffering from pleuro-pneumonia, and died on the fourth day. Dr. John Stenhouse, who attended him, has been kind enough to furnish me with the following account of his illness, and of the condition found post-mortem. The record is of value, as it demonstrates the results of the operation which has been advocated in this paper. There had been effected a complete cure of the empyema by closure of the cavity, the walls of which had become firmly united. Dr. Stenhouse writes as follows:

"Since his operation, F. C. has had comparatively good health, and I have only attended him occasionally, for some minor ailments. He found employment as motorman on the street railway service, and for a few months before his death was working seven hours a day.

"Late on Friday night, February 7, I was sent for to see him. He was half sitting up in bed, and complaining of severe pain down the right side, both back and front, and in the right hip. His temperature was  $102^{\circ}$ ; pulse, 120. He said his car is the hardest to brake on the line, and two of his predecessors had already been unequal to the task. Not unmindful of Hilton's case of intercostal neuralgia, due to pleurisy, and knowing that my patient had but one useful lung, I examined it very carefully, but could make out nothing wrong with either pleura or lung tissue. I concluded he had simply caught a bad cold from exposure, and that the soreness was due to the frequent strain of suddenly pulling up a heavily-loaded car and trailer. I prescribed a pil cath. co., some powders of ammoniac, gr. x, and a liniment for the side.

"Next morning he was no better, but beyond the puerile breathing, which was normal with him, distinct signs of lung disease were wanting. Poultices were ordered, and I called again late in the evening, I could now for the first time make out a definite pleurisy, but there was no evidence of an invasion of the lung tissue. The pleuritic rub could be made

out over the whole side under the mamma, but was particularly strong just beneath, and extended to the nipple. Being afraid of covering so wide an area with fly blister, I ordered mustard, and left some triturates of morphine to control the pain.

"On Sabbath the pleurisy was well marked, and there was now a distinct pneumonia over about the same area, thus leaving very little lung available for respiration. The breathing was labored and painful; pulse, 132; temperature, 102.4°. I kept up the poulticing, and prescribed ammonium chloride, liq. strychninæ, and tr. strophanthi, but felt quite hopeless as to the result. Next morning I was sent for at 4.30, but the patient was moribund, and died at 8.30.

"With the assistance of Dr. James G. Caven, I made a post-mortem eight hours after death. The body was muscular and well nourished. The left side was sunken, and the site of the Estlander operation marked by a deep depression.

"On opening the thorax the apex of the right lung was found quite free, but adhesions had formed below the mamma, and were specially strong where the rub was most apparent. About two-thirds of the pleura was covered with recent lymph, and the pleurisy had also invaded the base behind. There was consolidation of the lower two-thirds of the lung, though there was still some air in the anterior free border.

"The left lung was firmly adherent to the chest wall, and could not be removed without its being badly torn. It was small and black, and being completely collapsed sank in water. The dark color was due to chronic congestion rather than to carbon pigmentation. Tags of fibrous tissue showed old pleurisy.

"The heart was weak and flabby (fatty?); the liver was fatty.

"The early death must have been due to the absence of the left lung, as much as to disease of the right."

## Selected Articles.

TRANSLATIONS FROM THE FRENCH.

By DR. W. A. McKEOWN, B.A., M.D., M.R.C.S. ENG.

### INCONTINENCE OF URINE.

The following simple procedure has given M. J. Stumpf excellent results. During sleep the pelvis of the child is raised so as to form an angle of 130 to 140 degrees with the vertebral column. On account of this position, and the obstruction which it offers to the passage of urine into the urethra, the sphincter is not excited. He has cured, by this means, twelve children and one adult. The same method has been employed with success by the director of the Deaf Mute Institute at Wurtzburg on two obstinate cases. The treatment need not be extended over three weeks, when, without fear of recurrence, the child may be allowed to sleep in the normal position.—*Gazette des Hospitaux*.

### HYDROCHLORIC ACID IN DYSPEPSIA.

M. Huchard, in *The Revue Générale de Clinique et de Thérapeutique*, gives the following indications and contraindications for the administration of hydrochloric acid :

In all cases where digestion is retarded, where there is a diminution of hydrochloric acid, in chronic gastritis, in cancer of the stomach, in fevers which suppress almost completely the secretion of hydrochloric acid, in pulmonary tuberculosis, and during loss of compensation in heart affections. Besides these, in chlorosis anæmia, and certain nervous affections, hydrochloric acid is indicated. It may be given as follows :

Acid hydrochloric, 1 part ; aqua distil, 250 parts. Tablespoonful in half glass of water at the end of and half an hour after meals.

It is contraindicated in hypersecretion of hydrochloric acid, in continuous hypersecretion of gastric juice, in ulcer, and acute diseases of the stomach, in certain cancers of that organ arising from an ulcer, and in certain nervous dyspepsias, due to an increased sensibility of the mucous membrane, even if the secretion of hydrochloric acid is not increased.—*Gazette des Hospitaux*.



## SUPERNUMERARY URETHRA AND BLADDER.

M. Peon reports a case of incontinence of urine in a young girl of fifteen, referred to him for operative relief. On examination, he found in the line of the urethra a tumor which was at first thought to be a urethrocele, or cystocele, but upon more careful examination, and pressing upon the tumor, it was found to empty, not by the urethra, but by a smaller orifice in the middle line. Through this opening a sound was passed, entering the sac. On opening the canal and sac it was found that there was a supernumerary urethra and bladder, the latter communicating with the normal bladder. As there was no sphincter at the opening of the supernumerary urethra, the incontinence could be readily explained. The removal of the additional bladder, and bringing together of the normal bladder wall over the opening, was followed by complete relief. M. Peon says that this case is unique, and that there have been only two cases reported which at all resemble it, both in men. One of these latter was remarkable for the fact that the urine was discharged by one urethra, and the semen by another.—*Eng. des Hôpitaux*.

## TREATMENT OF WHOOPING COUGH BY QUININE.

According to M. Fischer, quinine has not only a favorable effect in checking whooping cough, but may completely cure it. In two children the number of attacks after the use of quinine for two days was found to decrease from fifty-six to two each day. At the end of eight days they disappeared entirely. He has treated altogether twenty-seven children, of whom one died the day following its admission to the hospital. Two others could not retain quinine, vomiting it. In the others the effect was remarkable. At the end of five days there was complete relief from the attacks. In the most severe cases, all that remained of the attack was a little bronchitis. Where whooping cough is complicated by bronchopneumonia the quinine has also a favorable action upon the latter. Moreover, it stimulates the appetite of the little patients. As to the dose, he gives one centigramme for each month and ten for each year of the child's age, not giving, however, more than forty centigrammes at a time.

## INTRAVENOUS INJECTIONS OF ARTIFICIAL SERUM IN SEPTIC PERITONITIS.

At the meeting of the Société de Chirurgie, December 18 last, M. Pozzi reported the case of a patient upon whom he had performed vaginal hysterectomy, followed by septicæmia, and cured by the injection of 1,400 grammes of serum into the veins.

The patient, a woman aged thirty-nine, had had, at ten years of age, scarlatina, followed by epileptiform convulsions. Married at the age of twenty-two. She had four children. One of her confinements was the

cause of a cervical laceration, which necessitated Emmet's operation. She was finally attacked with double salpingitis, the uterus being bound down by adhesions. Pozzi did a vaginal hysterectomy, removing also the adnexia. There was no hæmorrhage. The same evening the patient became extremely nervous. The next day excessive vomiting set in; pulse, 110. Retention of urine, and no flatus from the bowel. The next day the clamps were taken off. No hæmorrhage; pulse, 135. Abdomen distended and painful. The next day the symptoms had increased. M. Berlin, of Nice, determined to try serum injections. He injected 1,400 grammes, in two doses, into the veins. The patient, who had been suffering from dyspnœa, intense delirium—who, in a word, showed all the symptoms of intense septic peritonitis—as a result of the injections showed a very noticeable improvement. Convalescence was soon established, and the patient recovered. M. Pozzi remarked that in this case a considerable dose was used. The injections appeared to have produced in this case the happiest results. He cited an analogous case of a Baltimore surgeon in which large doses of serum had been injected into the arteries. In the discussion which followed several of the members spoke of similar cases which had come under their observation, and where the results were all remarkably good. Some had used the serum for injection after severe hæmorrhage, and spoke highly of the effect produced.

#### MENINGISME HYSTERIQUE.

M. Huchard has described a condition simulating tubercular meningitis, which he terms "Meningisme hysterique." M. Comby states that this condition is not particularly rare in children, he himself having seen three cases. The diagnosis is extremely difficult, and it is almost impossible to distinguish this from true meningitis, except by the fact that the patients recover. However, fever may be absent in these cases of false meningitis. The diagnosis might be made by examination of the blood. It is easier to take a drop from the end of the finger than to go down with a needle into the spinal canal. This may be used for direct examination and for inoculation.

#### PUNCTURE AND INCISION OF THE PERICARDIUM.

Dr. Delorme, Médecin principal de première classe de l'armée: I have the honor to communicate the results of researches which we have undertaken (M. Mignon and myself) on an important subject in surgical practice—puncture and incision of the pericardium.

Warned by the unfortunate cases in which the usual procedures have been shown to be insufficient or dangerous, we have taken for our guides the normal and pathological anatomy of the region sought for, a procedure less dangerous, and which would give better results.

Those who have practised puncture, or incision, of the pericardium have always sought to avoid first wounding the internal mammary artery, which may give rise to dangerous hæmorrhage, and, secondly, worse still, wounding the heart. The fear of injuring the internal mammary caused them to introduce the trocar, or bistoury, from two and a half to three centimetres to the left of the edge of the sternum, and to avoid the heart at a point where the heart impulse could be the least felt and dullness the most marked. This latter caused the incision to be made still more to the left. The classical point for puncture is six centimetres from the sternal margin, in the fourth or fifth interspace; for incision the same interspaces, commencing at a point three centimetres from the sternum. To those who feared to pass through the left lung the answer was given, not without reason, but not always with sufficient exactness, "The left lung in distension of the pericardium is pushed behind; if not, it presents a notch, often on the inside, which corresponds to the point of puncture or incision."

As to wounding the pleura, it has been regarded as of little consequence. Scarcely anyone, except Baizeon, has drawn attention to the danger of this. He has also suggested a means of avoiding it; but his suggestions have not received the attention they deserved. The statement that the distended pericardium almost immediately became adherent to the thoracic wall, and the belief in the retraction of the pleura, the degree and importance of which have been exaggerated, have inspired operators with a regrettable security. The word regrettable is not too strong; for the anatomy shows that when incision or puncture is performed after the usual manner, the pleural cavity is almost certainly opened into.

Our researches, which have been carried on on sixty cadavers, have shown that the border of the left pleura forms attachments with the corresponding margin of the sternum, and with its under surface, and that these are more extensive than is generally recognized. At the level of the fourth intercostal space it is behind the sternum, or corresponds with the margin of the bone. The pleura can be injured close to the sternum, in the fifth interspace, in about one-third of the cases, normally; and anomalies are frequent. It is only two centimetres from it, that is to say, it does not go beyond the line of the internal mammary; finally, it comes beyond the vessel for a few millimetres to a centimetre in the sixth interspace. Thus, to be certain of avoiding the pleura, it is necessary to keep to the margin of the sternum, or even within it, in the fourth, fifth, and sixth interspaces, which are the ones best available for our purpose. This is a long way from the point of election in puncture or incision.

Does distension of the pericardium, as has been said without sufficient proof, push to the left the pleural margin? Does it increase the extent of the left half of the mediastinum sufficiently for the trochar or bistoury to



be passed in with safety at the points chosen for this purpose? It does not; for the parietal layer, more fixed than the visceral, remains in place, while the latter is slowly displaced, and the instrument will invariably penetrate the pleural cavity. In a subject suffering from enormous serous dilatation of the pericardium, upon which I made an autopsy, puncture or incision at the classical points would have opened the pleura; in a second, a case of purulent pericarditis, the trochar passed through and infected the pleural cavity; in a third case, where I attempted to open the pericardium, I opened the pleura and produced a pneumothorax.

It is only in cases of serous effusion into the pericardium that it can be said puncture of the pericardium, at a point badly chosen, is without danger; but in purulent pericarditis the pleura is infected during the withdrawal of the trochar, either directly by it, or by the jet of pus escaping from the pericardial opening, or by extension from the latter. The incision at the point of election may give rise to pneumothorax (a complication to be dreaded in a patient with whom the pulmonary functions are so impaired and the right heart so overtaxed), or may cause infection of the pleura. The latter affects the general condition, which is already grave, has the same action on the right heart as pneumothorax, and offsets any good which the puncture may have produced.

We have endeavored to suggest a means of avoiding these complications, and, at the same, time avoid injury to the lung, heart, or internal mammary.

After having made a puncture at the left margin of the sternum in the fifth interspace, or in the fourth when the fifth is too narrow, we put the needle of an aspirator in, close to the sternum. The needle follows exactly the margin of the sternum, then the posterior surface of this bone for a distance of about a centimetre. This done, it is pushed directly down and a little backward to a depth of some centimetres, until the fluid flows into the aspirator.

The needle passes along the anterior surface of the heart, and penetrates the space formed by the heart above, the diaphragm below, and the pericardium in front.

In one of my cases I have appreciated the safety and efficacy of the procedure. The characteristic of our incision is the avoiding of the left pleura, which passes, in the majority of cases, behind the sternum. The margin of it, often protected by a little cushion of fat, is only united by slight adhesions to the external surface of the pericardium.

If the fifth and sixth interspaces are too narrow to allow the separation of the pleura, we excise with a bone forceps two centimetres of the fifth and sixth cartilages. Beginning at the edge of the sternum, we separate the intercostals of these interspaces. This done, we, with the use of fingers, run

along the anterior surface of the pleura, and, without trying to see the pleura, we separate its border, and push it back with the mammary vessels and the soft parts. At the bottom of the wound, which is about six centimetres long by three wide, is seen the pericardium, recognized by its white, pearly color. It is picked up, an opening made, and extended to the length of three, four, or five centimetres by use of a director.

The loss of the sternal attachments of the fifth and sixth ribs when the cartilages are cut through, although inconvenient, is rendered of less consequence by reason of an anatomical arrangement, which we may here note. Independent of its direct attachment to the sternum, the sixth cartilage is united to the seventh about five centimetres from the border of the sternum. Thus, when care is taken to preserve the sternal attachments of the seventh cartilage, the sixth is still indirectly connected with the sternum. This indirect attachment is always found. Besides, a similar connection unites the fifth and sixth. We then lose one sternal attachment only when the connection between the fifth and sixth is wanting. But it appears difficult to oppose the inconvenience of this to the advantage, from the triple point of view, of safety, facility, and certain protection of the left pleura.

The conclusion from our researches has been already drawn. The usual mode of puncturing, or incising, the pericardium exposes us to the danger of opening the pleura. To avoid this, it should be sought for behind the sternum, or pushed aside before cutting into the pericardium.

## ACCIDENTS AND INJURIES FROM CRICKET.

**A**RTHUR W. PRICHARD, in his presidential address on "School Surgery," delivered on October 9th, 1895, at the opening of the twenty-second session of the Bristol Medico-Chirurgical Society, speaks as follows on the accidents and injuries to which cricketers are exposed :

We come now to the summer term, and the accidents and injuries that may happen from cricket, a game that is remarkably free from danger. Considering the huge number of people who now play the game, and the sometimes great pace of the bowling, and that, too, on a wicket that is the reverse of perfect, I think it is curious that so few cases of serious injury occur. At a school with a carefully-kept playground it is not generally in a match that we see accidents. They occur most commonly during practice at the nets, and when many games have to be played in a limited area ; and therefore the fieldsmen of one game are near, or, perhaps, overlapping, the fieldsmen of another. An unexpected blow from the ball frequently occurs, though not commonly resulting in much harm. I have had, however, under my care from this cause, many contusions, two or three cases of concussion of the brain, and at least one case of fracture of the skull. In formal cricket, the commonest accident that might be called serious is, I think, dislocation of the top joint of the fingers in catching or stopping a hard hit. This results in perfect recovery after a few days' inconvenience, provided the dislocation is reduced at once ; but I have seen a case in which permanent stiffness of the joint ensued because the boy let the joint remain out for a fortnight before he sought surgical assistance. In a ladies' match last year one of the players at a school in Clifton attempted a catch at short-leg, and the result was a bad compound dislocation of the middle finger and a simple dislocation of the ring finger. This hit was by a girl considerably her junior. Next in frequency, perhaps is the more or less split web of the fingers, and I believe it always arises from the clumsy way in which a fieldsmen attempts a catch. If his fingers are up towards the ball—and the accident happens more often from a lofty hit than a low one—the ball may come down between separated fingers and so split the web. The ball should be received into the palms of the hands. Injured knuckles and fingers from playing fast bowling without gloves, and blows on the thighs above the pads, injuries from



collisions, broken noses, and cut lips are common, and need no special comment.

The most important surgical question that arises from cricket is, how far a growing boy ought to tax the strength of his muscles and frame in bowling. Bowling with a high-reaching delivery, and as fast as possible, is a frequent source of strain of the muscles of the back. If the bowler is right-handed, the trouble appears in the left erector spinæ and quadratus; and when once it has appeared, it is sure to recur if a considerable rest from that kind of bowling be not enforced. It is easy to see that lateral curvature may be induced, and I have seen cases where, if it has not been begun, it has been made materially worse by this practice. Some instances of sprain of the scapular muscles have come under my notice, also, from bowling and from throwing. The question of bowling by young boys is one that ought not to be lightly passed over. The ball is too heavy and the pitch is too long, in my opinion, for most boys below the age of thirteen or fourteen, and boys can be taught to play with more precision if a smaller ball is used and a shorter pitch.\* It is painful to see a small boy with the ordinary cricket ball, and at the regulation pitch, go on, over after over, trying to bowl as fast as his strength will let him, and I am sure it would be far better for the boys' own sakes, whether as regards their general well-being or their future cricket career, if some modification were made in the laws of cricket, defining a certain weight and size for the ball, and a certain length of pitch for matches between boys under the age of fourteen.

In preparing the cricket part of my paper, although I do not wish it to be understood that he is in any way responsible for the opinion I have just expressed, I have asked the greatest of living cricketers to give me his experiences of accidents in the cricket field, one who, among the many records that he has broken, holds the world's record—at all events among medical men—of having his name known to the largest number of English-speaking people in the universe. He, with us all, rejoices at the immunity from serious injuries which cricket enjoys. One injury, he says, that occasionally occurs, and one which he has suffered from himself, is that in starting from the crease to make a sharp run a few fibres give way in the gastrocnemius, making the player feel as if he had been hard hit on the back of the leg. This quite incapacitates the player for the time from running, and the best treatment, although very painful, is to have the part strapped with firm plaster, or to have an elastic bandage put on. Indeed, for many cricket injuries an elastic bandage is a very useful item in one's cricket bag. Mr. W. G. Grace has seen one death in the field, and that was a sad case of a boy at Harrow, who received a blow on the head, while

\* This, I am pleased to hear, has been the custom in the junior school at the college for some time.

umpiring, from a ball hit to leg by a batsman of his own game, while he was paying too much attention to a more important game played close by. Another death, but not on the cricket field, occurred a few years ago in the Notts *v.* M.C.C. match. A professional player was stunned, but insisted next day in travelling home, saying he was not seriously hurt. Coma came on, and he died before he reached home, presumably from hæmorrhage. On August 22nd this year, a player at Clapham, when batting, was struck in the neighborhood of the heart, and died in a few minutes.

A curious case that Mr. Grace mentioned was that of a Kent gentleman, who, in playing at Gloucester against Gloucestershire, jumped at a catch, while fielding at point, and dislocated his shoulder. The following year, in the same match, but at the county ground, Bristol, he fell while fielding and met with the same result. Mr. E. M. Grace brought him at once to the Infirmary, where I happened to be on duty, and I reduced the dislocation. Notwithstanding that he had to be put fully under chloroform to effect the reduction, the Kent player insisted upon going back to see the match an hour after he had come round. One case Mr. W. G. Grace cited, as showing the pluck of some players, was this. A wicket-keeper dislocated the top joint of his finger so badly that the skin was split across. This was reduced, and a bandage put on. He then resumed his place at the wicket, and did his work with credit till the end of the match. Bad blood blisters are common, and sometimes he has seen broken metacarpal bones, but never any serious damage to the abdomen or to the scrotum. This last fact rather surprised me, as a blow upon this part of the body of the batsman or wicket-keeper is apparently so frequent.—*The Bristol Medico-Chirurgical Journal.*

## THE RELATION OF RECTAL SURGERY TO OTHER SPECIALTIES.\*

BY CHARLES B. KELSEY, M.D.,  
Professor of Abdominal and Rectal Surgery.

GENTLEMEN,—I shall show you this afternoon three cases in no way peculiar, and yet illustrating perfectly the idea I wish to impress.

Please bear in mind that they are all cases sent to me for disease of the rectum—two in private practice, and one in the dispensary—and that in two of them the diagnosis of disease of the rectum was correct, and in the third perhaps not to be wondered at, though an error.

CASE I. An intelligent working woman of middle age. The note from her physician which she brought to the clinic said she needed an operation for piles. She was examined too superficially, and two weeks ago to-day was operated upon before you for piles. Not four days had elapsed before she calmly told me she was no better, that I had not hit the cause of her trouble, that she was just as bad and in just the same way as she was before, and that she proposed to stay in the hospital till she was well. Few patients will treat you as well as this one has treated me, and not only tell you of your errors, but give you a chance to correct them. It now turns out that this patient, although she had piles, never suffered from them, and that what she came to the hospital for was not to be operated upon for piles, but to be cured of a constant pain in the back and pelvis, and of an almost insurmountable difficulty in defecation. A vaginal examination reveals at once that there is endometritis with salpingitis. This is shown by the pain and by the tenderness on pressure. The uterus also is much out of position. It is strongly retroflexed, and is lying in the hollow of the sacrum, and as I pass my finger into the rectum beyond it I find a large faecal mass which leads me to think that the uterus, by its pressure on the bowel, causes a certain amount of obstruction. The uterus is, however, movable, and can be thrown into anteversion by the finger.

\*A Clinical Lecture at the Post-Graduate Hospital, New York.



We will now try to finish the cure of this patient. First, we will curette the uterus for the endometritis and salpingitis. Then we will open the abdomen, and fasten the organ to the abdominal wall out of the way of the rectum.

You observe that the organ is much increased in size, as the 'curette passes in nearly five inches. You see also, now that I have opened the abdomen, that the annexa are fairly healthy.

CASE 2. This little patient you have also seen before, but some months ago. She then was suffering from a tight congenital stricture at the usual point, an inch and a half from the anus. I say "little patient," because she weighs scarce ninety pounds; but she has been married three years, had an abortion produced a few months after marriage, and was in hospital several weeks with peritonitis as a result. When she was sent to me she complained of great difficulty in defecation and much pain in the pelvis, all of which was easily accounted for by the stricture of the rectum.

This was cut in the usual way before the class, now nearly a year ago. At present she has regular daily passages, the stricture is kept well open by bougies, and, as far as the rectum goes, she has been greatly benefited.

Still, she is a chronic invalid. Sexual intercourse is almost impossible. She has frequent attacks of pelvic pain, which keep her in bed for days at a time; and she tells me sorrowfully that, though she is certainly better so far as the rectum is concerned, she is really no better in general health, and thinks there must be something else the matter. The "something else" is simply a double pyosalpinx due to her abortion, with an irritable caruncle in the urethra, which is exquisitely sensitive to touch.

We will now proceed to try to cure this patient also by opening the abdomen and removing the pus sacs. The caruncle we will leave till later. This, again, is an operation quite in the line of gynæcology, and yet absolutely necessary if we wish to relieve this patient.

You see that the two ovaries are quite healthy, and therefore we will leave them, acting on the rule of removing no more than is necessary. Both tubes are converted into pus sacs as large as eggs. The adhesions are slight, and easily broken, and the tubes come out without rupture. There has been no soiling of the peritonæum, and the abdomen can safely be closed again.

CASE 3. Sent to me from the western part of the state as a case of stricture of the rectum. The most superficial examination proved this to be an error, though the man had used bougies for years. He had no symptoms of stricture, but complained of a wearying pain in the rectum, which had reduced him to a condition of chronic invalidism. On closer questioning, we found the pain was also in the penis, in the testicles, and

along the left spermatic cord. There was also an irregular frequency in micturition. Sometimes the patient could hold his water for hours, again he was up six or eight times a night. There was no vesical calculus and no cystitis. Dr. Fuller kindly examined the patient with me. His diagnosis was chronic gonocystitis, the vesicles, especially the left, being larger than normal, very tender, and exuding bloody semen on stripping. Pressure on the left vesicle caused an immediate attack of all his painful symptoms.

To avoid, if possible, the serious operation of extirpation of the vesicles, I did a perineal section before you some weeks ago, at the same time thoroughly dilating the neck of the bladder. Temporarily there was marked improvement, but this lasted only a short time, and the patient is now as bad as ever. He is miserable, unfit for work at his trade, is willing and anxious to submit to anything that gives hope of relief, and I shall now remove one or both vesicles, depending upon how we find them when exposed. This is an operation still in its infancy. So far as my knowledge goes, it has been done only twice in this country, once by Dr. Weir, a general surgeon, and once by Dr. Fuller, who teaches you genito-urinary diseases.

On the cadaver I have tried the operation by a posterior median incision and removal of the coccyx exactly as in Kraske's operation. Although the vesicles can be reached in this way, the wound needs to be very deep, and the rectum, in order to remove both vesicles, must be completely lifted from its attachments. I shall, therefore, make in this case an incision across the perinæum just in front of the sphincter ani, and, with a sound in the bladder for a guide, gradually work my way upward between rectum and bladder till the vesicles are reached.

The operation, as you see, has been long, bloody, and manually difficult. In another case I should keep to the Kraske incision, which, though it seems unnecessarily large, renders the operation much more precise, and is attended by much less bleeding and risk of tearing the rectum, as we have done in this case. The perineal incision makes only a deep, funnel-shaped wound, and the small end of the funnel is blocked by the prostate, above which are the vesicles. I have, I think, completely torn out and scraped away the left vesicle, and I have in my hand a beautiful little calculus of the size of a pea which I will pass around. There were several in the vesicle, but the others were no larger than pin-heads, though the little stone quarry was easily appreciable to the touch, and formed the guide to the vesicle itself. Without them I never should have been certain in my own mind that I had really reached the diseased spot through this incision.

We will now suture the rent in the rectum, and, after putting in a few sutures to narrow the skin wound, leave the rest to heal by granulation.

And now, gentlemen, let me in a few words make the point to which all this leads. These patients all came to me as a specialist in diseases of the rectum, and they all had symptoms of disease of the rectum or they would not be sent. In two there was disease of the rectum, in the third only constant pain there, due to disease near by. All three of them I hope to cure, but not by operating on the mucous membrane of the lower three inches of the alimentary canal, and leaving the rest to some abler surgeon than myself. And this is why I so often impress upon you that a specialist in diseases of the rectum should be able to do something more than tie off piles or cut away a fistula if he wishes to be considered either a surgeon or even an ordinarily intelligent and successful practitioner. Would any gynæcologist worthy the name have done the work you have seen me do this afternoon, and then sent the patients to me, the one for the piles, and the other to have the stricture of the rectum divided? Because they would not account for the fact that gynæcology has a place of its own as a specialty. And because too many so-called rectal specialists do not do what the gynæcologist does as a part of his specialty, and try to cure their patients, but have reached the limit of their surgical knowledge when they have cured a patient's piles, is the reason why the specialty of the rectum has not yet won for itself a proper recognition in the profession. Some of you are here especially to study diseases of the rectum, and some to go home and practise as specialists in this department. If I have conveyed to you by this long afternoon's work what I think is involved in such a course, I shall be very happy. My own idea of a rectal specialist can be stated in few words : It is one who is prepared to cure the patients who come to him with trouble in the rectum.—*New York Medical Journal*.



## THE PREVENTION OF SEASICKNESS IN SHORT VOYAGES.

BY M. CHARTERIS, M.D.,

Professor of Materia Medica and Therapeutics, University of Glasgow.

MOST passengers setting out for sea voyages, whether long or short, commence their trip under conditions unfavorable to exemption from seasickness. They eat heartily and unwisely. The result is, when the steamer gets under way and meets the ocean swell, their stomachs rebel and expel their contents. The irritated gastric state is communicated to the vomiting centre in the cerebrum, and when actual vomiting has ceased retching begins, which, in some instances, continues during the whole voyage.

In my opinion, it cannot be too strongly insisted upon that the diet for the first two days in a long voyage should be "dry" and "spare." No full meal should be indulged in. Soups and pastries should never be taken.

In short voyages, to which the following cases refer, the same injunction should be made, and the passenger should take no food or liquid if the voyage only lasts a few hours; if it be for a longer period, the smallest modicum of these should suffice.

But experience shows that diet, though very important as a prophylactic, will not be sufficient to guarantee exemption from seasickness. Other means must be adopted, and of these the most successful are: (1) A clearing out of the *primæ viæ*, not by a saline, but by a liver-acting aperient such as calomel or blue pill, which should be taken on the night before embarkation, and be followed on the morning by a saline purgative such as citrate of magnesium. (2) When on board the steamer, if the passage be by the night service, a full dose of the solution of chloralamide and bromide of potassium known as chlorobrom should be taken, and the passenger should at once retire to his cabin and rest and sleep. If by the day service, a minimum dose should be taken; the passenger should remain on deck. Only under exceptional circumstances is a second dose necessary.

The following cases, selected from numerous communications I have received, bring out the points mentioned. The truthfulness of these statements can be guaranteed.

CASE 1. "My wife succumbs to seasickness on the slightest provocation, but of late she has obtained relief by the use of chlorobrom. In the summer of 1893 we crossed from Harwich to the Hook of Holland by night. I heard sounds of distress from the cabin adjoining ours, but my wife, having taken a dose of chlorobrom, slept the whole night, and awoke next morning feeling quite well. In September, 1894, we crossed from Calais to Dover by day in a rough sea. Most of the passengers were sick; we escaped. Last autumn we left Dieppe for Newhaven in what the sailors called a quarter of a gale. Many on board were sick, and here again chlorobrom protected, but the administration of a second dose was, on this occasion, found necessary."

CASE 2. "I am a bad sailor; even the thought of going on board a steamer gives me a sickly feeling, and when on board my sufferings are intense. The sickness lasts until the voyage is over. In the autumn of this year I had to go to Shetland, and, though the sea was fairly smooth, I was very ill.

"On my return voyage from Kirkwall at 11 p.m. I took a tablespoonful of chlorobrom. I slept a dreamless sleep, which lasted eight hours. As the sea was very rough, I did not rise from my berth, but slowly ate a dry biscuit and took a teaspoonful dose of chlorobrom. Again I slept for three hours. When I awoke I felt hungry, and had a cup of tea, unsweetened, and two pieces of dry toast.

"I then took a turn on deck, but, as the accommodation for walking was very limited, I returned to my cabin, lay down, and took small doses of chlorobrom during the day. Though I did not sleep, I was contented and happy, and was able to read a novel until the steamer reached Aberdeen at 6 p.m.

"There I had a good square meal, and came back to Glasgow by train."

CASE 3. "I am such a bad sailor that I am unable to go for an hour's sail, either by boat or steamer, without becoming sick.

"Last summer I had occasion to cross to Belfast by the ss. *Adder*, which sails from Gourock at 8 a.m. Before the steamer started I took two teaspoonfuls of chlorobrom. The sea was very rough, and almost everyone on board was sick, but I did not feel at all uncomfortable, for I had a good appetite and was able to take an excellent dinner.

"As this was my first experience at sea during last summer, I considered my immunity from seasickness might be due to my health being better, and, to test this, when I went the same voyage in the autumn I did

not take chlorobrom. I regretted this, for I was very sick during the whole passage, although the sea was by no means rough."

CASE 4. A French gentleman, known to me for many years, two years ago told me that he had never crossed the Channel without being very sick. "I have tried everything known as a cure, but without benefit." He was advised on the evening before embarking at Leith for Rotterdam to take three one-grain calomel tablets, and, in the morning, a full dose of citrate of magnesium; then, when on board, to take a full dose of chlorobrom—*i.e.*, two tablespoonfuls.

The steamer sailed at 9 p.m., and he retired to his cabin shortly afterwards. He slept for ten hours, and rose next morning without a headache and free from any squeamishness or nausea. He was able to enjoy his food during the day, but he did not take any soup or pastry. In the evening he took another dose, and landed the next morning at Rotterdam perfectly well. He informs me that the sea has no terrors for him now.—*The Practitioner*.



## Clinical Notes.

### PERFORATION OF A GASTRIC ULCER, OPERATION, RECOVERY—RUPTURED ECTOPIC GESTATION —STRANGULATION OF INTESTINE.

By J. F. W. ROSS, M.D. TOR.,

Professor of Gynæcology and Abdominal Surgery, Woman's Medical College; Surgeon to  
St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

#### PERFORATION OF A GASTRIC ULCER—OPERATION—RECOVERY.

**M**ISS D., æt. 26. The patient was a young woman who had suffered slightly from indigestion. She was, however, in her usual health, and feeling well.

On the night of January 28, 1895, took supper as usual, and went out at 7 o'clock p.m. While walking on the street, about ten minutes after leaving home, was suddenly seized with pain in the upper part of the abdomen, shooting through to the back, almost fell to the sidewalk in a faint, and was assisted by some passers-by into a neighboring drug store. Here she threw off her, as yet, undigested supper. Dr. Galloway, who was passing at the time, was called in, and advised her removal to her home. He advised that the family physician should be sent for. Patient was removed home in a carriage, but no physician was sent for, as they had lately moved into the city. She vomited through the night, and felt very ill. In the morning Dr. Galloway was again sent for. He found her complaining of general abdominal tenderness, found the pulse of the inflammatory type, hard and bounding, slight distension of the abdomen, and a burning at the pit of the stomach, especially after the patient took any fluid. He concluded that the case was one of perforation of gastric ulcer.

As the telephone service was demoralized, it was not until eleven o'clock at night that word reached me. I then saw the case in consultation, and advised immediate operation. It was difficult to obtain a nurse without making a midnight house-to-house visitation. Through the kindness of the lady superintendent of one of our hospitals, a nurse was obtained.

With every aseptic precaution, operation was performed at half-past three a.m., in the parlor of the young lady's home. An incision was made on the left side one inch below the margin of the costal cartilages, extending from the median line downwards and outwards four inches. As soon as the peritoneal cavity was opened the intestines were felt to be sticky, as if covered with escaped mucus. They were distended with gas, but not extremely so. The anterior wall of the stomach was examined carefully by being drawn out through the wound, and found to be intact. The two anterior layers of the omentum were then torn through, and the posterior wall of the stomach drawn out through the opening. A perforation, through which the tip of the little finger would readily enter, was found on the posterior wall near the lesser curvature, and near the cardiac end of the stomach. The edges were turned in by continuous sutures, the peritoneum was then brought over the opening by two layers of rapidly applied Halstead sutures. The abdominal cavity was then carefully washed out with a large quantity of water, and thoroughly dried with sponges passed down into the pelvis on long-handled forceps. A glass drainage tube was inserted through the opening in the omentum down to the pouch behind the stomach, and the wound closed with silkworm-gut sutures; this was dressed in the usual way.

The patient's pulse at the time of the operation was between 120 and 130; next morning it had dropped to 100. To relieve the thirst, and to produce peristalsis, large enemata of water and sulphate of magnesia were given every four hours. The patient was able to retain these, and within a few hours a free peristaltic action of the intestines set in; the bowels were well evacuated, and within twenty-four hours the distension had disappeared. Nothing was given by the mouth for three days and three nights, when a little albumen water was administered. The patient made an uninterrupted recovery.

I understand that this is about the twenty-fifth time that a perforated gastric ulcer has been closed by suture. Many of the cases have terminated fatally.

RUPTURED ECTOPIC GESTATION—INTRAPERITONEAL HÆMORRHAGE—  
IMMEDIATE OPERATION—RECOVERY.

Miss G., æt. 28. Unmarried. While walking on the street with a companion on the evening of December 24, 1895, at 9 p.m., was suddenly seized with intense pain in the lower abdomen, and fell fainting to the sidewalk. Previous to this she had felt some pain in her right side. Had missed one monthly sickness; had consulted a doctor, who thought that perhaps she was suffering from a slight attack of appendicitis. With this exception she felt well. After she fell to the sidewalk, her companion immediately hailed a carriage, and had her driven directly to St. Michael's

Hospital. While entering the hospital she again fainted ; was taken upstairs and placed in bed. When seen by the superintendent, he concluded that, in all probability, this was a case of ruptured extra-uterine pregnancy.

I saw her at 11 p.m., two hours after the rupture occurred. Advised immediate operation. I found her lying in bed with the peculiar appearance I have mentioned on previous occasions, but have been unable to describe. Concluded from her symptoms and her appearance that she was suffering from intra-abdominal hæmorrhage. The percussion note altered when she turned from her side to her back ; it altered slowly, due, no doubt, to the fact that a large clot of blood slowly altered its position in the abdomen after she altered her position. I have never noted this symptom before, but it was quite marked in this case. Operation was done as soon as the patient could be prepared.

On opening the abdomen blood gushed out. A large clot was found lying in front of the intestines, the right Fallopian tube was found ruptured so that two fingers would enter, and the placenta was hanging half-way out through the opening. She was losing blood very fast. Pedicle was rapidly ligated, clots were removed, abdomen washed out, drainage tube inserted, and the wound closed. Within five hours after the rupture took place the woman was placed in a condition of comparative security by a cœliotomy. She made an uninterrupted recovery.

INTESTINAL STRANGULATION BY A BAND, IN A WOMAN IN THE FIFTH MONTH  
OF PREGNANCY—PREVIOUS OPERATION FOR ECTOPIC GESTATION—  
OPERATION FOR RELIEF OF STRANGULATED GUT—SUBSEQUENT  
DELIVERY—DEATH.

Mrs. M., æt. 35, mother of four children. One year and a half ago the patient was operated on by one of my confrères for extra-uterine pregnancy ; the pregnancy was found to be tubal, and on the right side. After the operation what was diagnosed as a hæmatocele formed ; this became gradually absorbed, and the patient made a good recovery. She has been in good health since. Five months ago she became pregnant ; everything progressed favorably until February 12, 1896, when she was suddenly seized with pain in the abdomen and faintness. Vomiting set in ; the pain remained acute. Dr. Cuthbertson, the family physician, saw her, and concluded that something unusual had happened.

I saw her with Dr. Cuthbertson in consultation on Thursday evening, February 13. She was then feeling much better ; temperature, about 100° ; pulse, 100 ; abdomen slightly distended. The tenderness, on pressure, had almost disappeared. An intra-uterine pregnancy was found at about the fifth month. No pelvic adhesions could be made out ; the intestines could be felt gliding backward and forward in the cul-de-sac of Douglas, and there was no evidence of blood clot. Patient looked as if



there was not much the matter. We advised her removal to a hospital so that she could be carefully watched. This advice was not taken.

Patient was not so well on February 14. Early Saturday morning, February 15, vomiting became stercoraceous; pulse and temperature remained about the same. Abdomen became more distended. Patient looked blue and cyanosed. Notwithstanding the use of a high enema, and purgatives by the mouth, the bowels refused to act; no faecal matter passed down.

I saw the patient again with Dr. Cuthbertson at five o'clock in the afternoon; found her very much altered. The vomited matters were stercoraceous, and very offensive; pulse, thin and soft. Concluded that a coil of intestine must have slipped through under an adhesion and become strangulated. Decided on immediate operation. Patient removed to Toronto General Hospital.

Abdomen opened in the median line at 8 p.m. Found colon pale in color, small intestine congested and red. Concluded that the band was around a portion of the small intestine. On the right side, deep in the loin, about half-way between pubes and ensiform cartilage, a firm band of adhesion was found with a large coil of intestine constricted beneath it. This coil was almost gangrenous, and very dark in color, but looked as if it might recover after the removal of the constriction. It had evidently slipped through from above under the adhesion. An intra-uterine pregnancy was found; the left tube and ovary were intact. At the right uterine cornu, the side from which the ectopic gestation had been removed, the appearance indicated that some adhesions had given away at a recent date. One long firm adhesion was found similar to that constricting the intestine. Several other similar adhesions were met with. There were no adhesions anywhere else in the abdominal cavity. The large band pressing on the intestinal coil was ligated in two places and cut through. Immediately the intestine filled out, and it was evident that the constriction had been completely relieved.

The abdomen was now rapidly closed, as the patient looked as if she would scarcely leave the table alive. The stercoraceous vomiting ceased at once. She improved through the night; but at twelve o'clock next night, or twenty-seven hours after operation, she miscarried, and died in six hours after. Had it not been for this complication she appeared to have a fair chance of recovery.

The case was an interesting one. It points out a danger in store for any woman who becomes pregnant after she has been submitted to coeliotomy. It also emphasizes the danger of abdominal operation upon a pregnant woman. Before undertaking the operation in this case I felt it was almost a forlorn hope, but believed it to be my duty to operate, and give her the only chance she had for her life.

LARYNGEAL DIPHTHERIA TREATED BY CALOMEL  
SUBLIMATION—REPORT OF TWO  
CASES.

BY R. J. WILSON, M.D., L.R.C.P.,  
TORONTO.

**E.** K., æt. 9, female. When seen first, on November 27, 1893, membrane covered both tonsils and lower portion of uvula. Temperature,  $102^{\circ}$ ; pulse, 120; respiration, 26, but quite natural. The patient was at once isolated; an alkaline and antiseptic spray was ordered to be used every two hours, and an iron mixture containing small doses of hydrarg. bichloride to be given every other hour. This, with stimulants, was the sole treatment at this time. The treatment was continued for four days, when the throat was found quite free from any traces of membrane. On the morning of the fifth day the throat was inflamed, but free from membrane, the voice a little husky; pulse, 150; respiration, 48. The patient grew rapidly worse; all the symptoms of a well-marked laryngeal stenosis supervened; hoarse, barking cough; stridulous breathing; recession of suprasternal and supraclavicular notches; aimless movement; cyanosis, with extreme dyspnoea, rendered the prognosis almost hopeless. Intubation decided upon, and done by Dr. M. at 4 p.m., December 2. The tube was immediately coughed up, and with it came a small piece of membrane. The patient seemed relieved. We decided to wait before attempting reintroduction of the tube. The patient was at once placed in a small tent, made like the covering of a gypsy's wagon, and thirty grains of pure calomel vaporized. This was repeated every two hours for the five succeeding days. In the interval the alkaline steam was kept constantly going by means of a kettle and coal oil stove. The temperature, pulse, and respiration improved and gradually reduced (see chart), until the 8th of December, when we discontinued the use of calomel, though we continued the use of the steam for two days longer, when all symptoms of difficulty in breathing had ceased. She was quite well by the 16th.

H.M., æt. 3, male. On November 6, 1895, saw the patient for the first time. Small gray patches covered both tonsils; submaxillary glands enlarged; pulse, 90; temperature,  $101.3^{\circ}$ ; respiration, 24. Patient at

once isolated, and alkaline and antiseptic spray ordered to be used every second hour, and iron mixture to alternate with spray. Under this treatment the membrane, though it increased a little at first, had disappeared by the end of the fourth day. The patient was apparently well until the 15th, when his mother reported him a little hoarse; better on the 16th. On the morning of the 20th, or ten days after his apparent recovery, I again saw him. His pulse was quite rapid, breathing difficult, nails and lips blue, and yet he persisted in attempting to run around. At 3.30 p.m. I again saw him. Now respirations were 46, pulse 160, and, while present, the patient was suddenly convulsed—general clonic convulsion, so severe that I believed the patient must perish before we could give any relief. With the finger thrust in, an attempt was made to clear the throat. A small piece of membrane was removed, and the respirations, which for the time were arrested, resumed. Without delay the patient was placed in tent; a half-dram of calomel vaporized; this relieved the patient, and he fell into a quiet sleep. The alkaline steam was kept constantly going, the calomel vapor repeated every second hour until the 23rd. On morning visit I found my little patient collapsed; respiration 72, but quiet; pulse quite thready, and very rapid; violent diarrhœa, fœtid breath, with great anæmia. On examining the gums I found my patient salivated. The nurse told me that his condition during the previous night had been so fearful that she had vaporized the calomel every hour. The vapor bath was at once stopped, and a wash for the mouth ordered, the whites of eggs in whisky given; the symptoms of collapse disappeared, to be replaced by the former difficulty in breathing. The calomel vapor was again resorted to cautiously, and its effects carefully watched. The difficulty in breathing gradually lessened (see chart). His condition improving at the end of five days, the vapor was no longer considered necessary, though the steam was continued until the 29th, or nine days from the onset of the laryngeal symptoms, or twenty-three days from the commencement of the disease.

In addition to the two cases above narrated, I show you the charts of two similar cases. In each there was the primary pharyngeal attack preceding the involvement of the larynx—in one three days, in the other five. In these cases, as in the others, the amount of membrane was comparatively small, and rapidly disappeared under the alkaline and antiseptic spray. The same treatment was pursued with the same results, all the four cases recovering. In my hands this treatment alone has proved of any value in these cases. I mean curative value. I have had in private practice twenty cases of laryngeal diphtheria. Of those, three died within six hours of my first visit, being *in extremis* when seen; thirteen intubations were done without a single recovery, four recovered. I need only



mention the indications for employing this treatment. All cases in which we have hoarseness of the voice, aphonia, stridulous breathing, recession of suprasternal and supraclavicular notches, retraction of infra-thoracic walls—all, or a major portion, of these symptoms occurring with lividity of the surface resulting from a deficient oxygenation of the blood—call for the prompt and energetic employment of this treatment. Watching carefully the result, I usually employ from ten to sixty grains for each dose, and keep the patient in the vapor from five to thirty minutes, according to the severity of the symptoms. This treatment should be supplemented by the steam kettle, as before mentioned, and ought to be continued until all the symptoms have disappeared, which is usual in from one to six days. The dangers are : salivation, excessive diarrhoea, especially great depression and prostration with anæmia. By carefully watching the symptoms, and by the timely administration of stimulants and nutrients, these dangers may be avoided.

## DIPHTHERITIC CROUP. •

BY DAVID S. HOIG, M.D.,

OSHAWA.

THE treatment of diphtheritic laryngitis has been so eminently unsatisfactory, and the disease itself so fatal in its results, that the following account of a case occurring in my own family, and successfully treated by intubation and antitoxin, cannot, I am sure, fail to be of interest to that portion of the profession who have not had an opportunity of watching a case treated by O'Dwyer's method.

On the afternoon of the last Thursday in January last, my youngest child, a girl aged five years, developed symptoms of croup, and when, on examination, a small white patch was found on the left tonsil, the diagnosis of diphtheria in the larynx was made. Inhalation of steam, medicated with turpentine, eucalyptus, etc., was commenced, and kept up unceasingly during the night; but in spite of everything the disease progressed with terrible rapidity, the breath becoming quicker and noisier, the cough more frequent and more metallic in quality, and, at short intervals, attacks of severe dyspnœa, the pulse meanwhile getting weaker and more frequent. It had become evident that the child's hours were numbered, unless some operative interference was resorted to. After a consultation with my neighbor, Dr. Kaiser, I telegraphed for Dr. McDonagh, of Toronto. By the time of his arrival the little one's condition had grown so much worse, the dyspnœa so severe, the fighting for breath so painful to witness, that I looked forward to the tracheotomy, which I expected would be done, less with the hope of saving her life than to relieve her from the dreadful death by choking.

On Dr. McDonagh's arrival, and after examination, he proposed intubation, a procedure with which I was unacquainted, except through the journals, and against which anything I had read had prejudiced me. I agreed, however, and the tube was at once introduced, with (to my surprise) the least conceivable pain or inconvenience to the child. The change which now took place (to one witnessing it for the first time) was little short of marvellous. The child at once passed from a state of impending suffocation, the face cyanosed, the pulse becoming

rapidly uncountable, to a condition in which the breathing became perfectly calm and noiseless, the face pale and placid; an expression of the most perfect comfort replaced the hunted, anxious look of a few moments before, and in a short time she fell into a quiet sleep, the pulse gradually dropping until it was easily counted at 140.

A full dose of antitoxin was injected shortly afterwards. From this point the disease pursued a variable course for about ten days, our hopes rising and falling with the pulse and temperature; but from the moment the tube was introduced there never was another moment of threatened suffocation, or even dyspnœa, except for about two hours on the morning of the fourth day of its introduction, but the difficulty was quickly relieved by the child's turning its head from us and quickly plucking the tube out of its place by the cord. The tube was not replaced, and, after several days of anxiety lest the membrane might re-form, it became evident that the trouble from that quarter was past. Calomel vapors and the medicated steam were persisted in, at short intervals, for ten days, and stimulants were freely given. At the time of writing, five weeks from the date of seizure, the child is gradually forging back to health, but is still very weak. It is difficult to assign the exact value of the antitoxin in this case, but I am inclined to allow it some value in, possibly, neutralizing the poison in the system, for I have seen children with only slight dyspnœa die from the toxic effects in the system, and, judging from the rapidity with which the heart showed symptoms of exhaustion, I consider my little one to have had a full dose of the poison.

In conclusion, I shall never allow a patient to die from diphtheria in the larynx without giving it the chance of recovery afforded by intubation and, wherever possible, the intubing should be done by an experienced surgeon, and preferably by one making a specialty of the throat. I heard, recently, of a tube being introduced by a Toronto physician of large practice, and so unskillfully was it done that when the child died, twelve hours afterwards, he was still crying that the man was choking him. It is bungling of this kind which is, no doubt, responsible for the unfavorable reports that were at first published about the method.



## A CASE OF MYXŒDEMATOUS DEGENERATION OF THE PLACENTA, PRODUCING THE SO-CALLED HYDATID MOLE.\*

By C. J. C. O. HASTINGS, M.D.,

TORONTO.

MRS. A., æt. 23 years, married two years, first pregnancy. Was first called to see patient in November, 1895. She was then about two months pregnant. On questioning her, I found that she had been making every effort to restore the menstrual function, even to the extent of introducing a catheter and injecting water into the uterine cavity. She had been having a sanguineous discharge all this time. Fearing she had injured herself, she sent for me. After hearing the history of the case, I prescribed rest in bed, with uterine sedatives. The discharge continued more or less every day. After about four weeks I allowed her to dress and move around the room, as this did not seem to aggravate the symptoms. I then allowed her to go for a short walk every day. At no time did she soil more than one napkin a day, and sometimes that was very slight. The above condition continued until February 23, when I was sent for, and found the patient in labor. On examination, I found the os dilating nicely, and, as she was loosing very little, I left the case entirely to nature, gave the nurse the necessary instructions, and went and laid down in an adjoining room for about three hours, after which I made another examination, and found part of the mass had come away. The os being quite dilated, I passed my finger into the uterine cavity and cleaned away the remainder of the cyst—there was enough of the stuff to fill a pint jam-jar—and then cleansed the uterus and vagina with a bichloride solution, 1 in 1,000. The patient has made an uninterrupted recovery.

The term hydatid, as applied to this form of degeneration (which is still retained by our text-books, probably through the regard of the authors for the nomenclature of our forefathers in obstetrics), is somewhat misleading, as there are no true hydatids, but simply a proliferative, myxomatous, or mucoid degeneration of the chorionic villi, the contents of the sinus or cyst being mucin, together with albumin and salts. The cysts are attached to each other by pedicles, except the first of the series, which is attached to the

\* Presented to the Toronto Medical Society.

outer surface of the chorion, and not attached to one common stem, as one would infer from the simile given by some authors as resembling a bunch of grapes, which is incorrect, that of white currants and grapes floating in red currant juice being decidedly preferable. As regards etiology, it is still very obscure. It is supposed to be maternal in origin, on account of the occasional recurrence in the same patient. Syphilis, cancer, and inflammatory decidual disease, are supposed to play a prominent part. I do not think that the attempts to produce a miscarriage had anything to do in the etiology, as they would be much more common if they had, and statistics at present place them as occurring one in about twenty thousand cases. (American Text-book of Obstetrics.)

An interesting feature in connection with this case was the size of the uterus, which corresponded to that of a normal pregnancy at five months. The absence of any cysts from the sanguineous discharge, also the absence of any feeling of discomfort or pain other than that of a normal pregnancy, made the diagnosis very difficult, together with the fact of it being a primipara, of which I cannot find any cases reported on this continent.

# Progress of Medicine.

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## GENITO-URINARY AND RECTAL SURGERY.

IN CHARGE OF

EDMUND E. KING, M.D. Tor., L.R.C.P. Lond.,

Surgeon to St. Michael's Hospital ; Physician to House of Providence and Home for Incurables ; Pathologist, Toronto General Hospital.

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### CAUSE OF VARICOCELE.

There are three principal causes : First—Anything that impairs the general vigor of the part, as (1) Lack of proper support from relaxed scrotum ; (2) masturbation ; (3) abuse of venery, ungratified desires, etc.; (4) chronic orchitis, or repeated attacks of acute orchitis. Second—Anything that produces pressure, as : (1) Abdominal tumors ; (2) enlarged inguinal glands ; (3) hernia ; (4) trusses or belts worn around the waist ; (5) accumulation of fat in the omentum and mesentery. Third—Anything that produces prolonged muscular effort, as : (1) Prolonged riding on horseback ; (2) prolonged rowing ; (3) prolonged exercise in running or waltzing ; (4) excessive and violent muscular effort ; whooping-cough, sometimes.—Rand, in *Medical Record*.

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### THE TREATMENT OF SOFT CHANCRE.

The *Centralblatt für Chirurgie* for January 25 contains abstracts of two articles on the treatment of chancroid. The first, by Neisser, was published in the *Berliner klinische Wochenschrift*, 1895, No. 36. Neisser says that for many years he has observed the best results from cauterization with pure carbolic acid. The application, he says, is absolutely painless ; it destroys the floor of the ulcer thoroughly, especially under overhanging borders of skin ; it generally cleanses the sore very rapidly, and—a point on which the author lays special stress—it does not set up any artificial hard infiltration, as nitrate of silver does, to be subsequently mistaken for the induration of a syphilitic chancre. After the cauterization he applies powdered iodoform and a two-per-cent. ointment of nitrate of silver. Neisser remarks that in four instances lately he has observed



sores having the character of soft chancres, occurring three or four days after coitus, which did not heal under this treatment, but after a number of weeks became transformed into serpiginous syphilides ; the soft chancre, he says, had become "provocative" of the starting point of a tertiary syphilide, which was promptly cured with iodide of potassium. In such cases, says Neisser, one might readily be led to suppose that a reinfection had taken place ; consequently mercury should not be given, for it cures primary, secondary, and tertiary manifestations alike, and thus makes the diagnosis impossible, while potassium iodide, which cures only tertiary affections, may be used with entire propriety.

The other article, by Frank, which appeared in the succeeding number of the *Wochenschrift*, seems to have been called forth by Neisser's. Frank uses formalin for effecting the destruction of the ulcerative surface. He says that after twelve hours it appears perfectly dry, as if frozen, and that in six days this dry layer is shed, and the sore is perfectly healed in one or two days more. Formalin, too, he states, does not give rise to any induration of the surrounding tissues, and the pain occasioned by its application is slight, and of but a few seconds' duration. In a few cases he has observed that after the shedding of the dried layer the sore showed a moist, glistening surface, without any tendency to heal, but in these cases induration appeared subsequently, together with other signs of syphilitic infection.—*New York Medical Journal*.

[NOTE.—We have used formalin with very marked benefit in these cases, and when not applied in too strong a solution it produces no local inflammation. One-quarter per cent. is the strength we use.—E.E.K.]

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#### VARICOCELE.

Varicocele occurs on the left side in a proportion or ratio of 20 to 1. There are four good reasons for its frequency: (1) The left testicle hangs lower in the scrotum, and thus the veins support a heavier column of blood. (2) The spermatic veins on the left side are pressed by the sigmoid flexure of the colon when distended. (3) The spermatic veins of the left side join the renal vein at a right angle to the current of blood, thus impeding the rapid return of blood from the left testicle and veins. (4) The left spermatic vein is by some authorities stated to be poorly supplied with valves.—Rand, in *Medical Record*.

## PÆDIATRICS AND ORTHOPÆDICS.

IN CHARGE OF

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AND

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### SYMMETRICAL GANGRENE AFTER SCARLET FEVER.

A case of rapidly-developing gangrene of the face and sacral region after scarlet fever is reported by Dr. J. C. Wilson (*Archives of Pædiatrics*, September, 1895).

The patient was a lad six years of age, who was seized with scarlet fever, during the prevalence of a local epidemic, upon September 28. The case was described as quite severe, the form being scarlatina anginosa. The patient, however, did well, and was permitted to get out of bed about the tenth day, namely, October 7. From this time, for a period of ten days, the child seemed well, had a good appetite, normal secretions, and the urine is stated to have been free from albumin. There was abundant desquamation.

Upon October 17, the superficial cervical lymphatics began to swell. They were much enlarged upon the following day. Upon the 19th there were severe pains in the legs and ankles, with an abrupt decrease in the quantity of urine voided. Upon the 20th there was almost complete suppression of urine, with great pain along the urethra, intensified upon every attempt at micturition. Dropsy of the face and of the feet was absent. The temperature ranged between 101°-102° F. Upon the 21st the urine was slightly increased in quantity, and there was less pain in voiding it.

On the morning of the 22nd of October, the child complained bitterly of pain in the sacral region and buttocks. Upon examination at 7.30 a.m. the skin was found to be of a deep purplish color, almost black, over an area in the sacral region about two inches in diameter. Around the discolored portion there was a narrow, pink, inflammatory border. About noon upon the same day nose-bleeding appeared, at first profuse, after-

wards slight, and continuing until death. Shortly after epistaxis began, discoloration of the nose showed itself. There was at first lividity, attended with great pain. In the course of an hour the greater part of the nose had become bluish black, the area of discoloration being surrounded by a narrow inflammatory zone. 6 p.m. the same day, an irregularly symmetrical area of bluish-black discoloration occupied the nose nearly to the tip, and spread for an inch to the right and an inch and a half to the left side of the face. A similar area, but larger, situated over the sacrum. There were no other gangrenous spots. The skin over the discolored parts was dry and lustreless, presenting the appearance seen in rapidly-forming gangrene. Here and there at the margins were minute blebs. The patient died on the following morning.

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#### TYPHOID FEVER IN YOUNG CHILDREN.

In the *Archives of Pædiatrics*, January, 1895, Northrop reports four cases of typhoid fever occurring in children under two years. The cases occurred during an epidemic of the disease in the village of Stamphord in the spring of 1895. In all, there were 406 cases—194 in children under 15 years, and 68 under 5 years. There were, in all, 27 deaths. One of these was a child of 22 months. Autopsy showed swelling of Peyer's patches in lower ileum, enlargement of solitary follicles in large and small intestine, swelling of mesenteric glands, and enlargement of the spleen. The source of infection was found in the milk supplied. The man who supplied the milk obtained it from three dealers. He washed the cans with water from a dug well thirteen feet from and a little below a very foul privy.

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#### ANTITOXIN TREATMENT OF DIPHTHERIA AT UNIVERSITY COLLEGE HOSPITAL.

During the year 1895, 75 cases of diphtheria have been treated by antitoxin injection at University College Hospital. A very complete report of these cases is published in the *British Medical Journal* for January 25, 1896, by Sidney Marten and H. R. Smith.

*Administration of antitoxin.* In 74 of the cases the antitoxic serum was injected subcutaneously in doses of 10 c.c. (5 cases), of 15 c.c. (4 cases), of 20 c.c. (32 cases), of 25 c.c. (5 cases), of 30 to 35 c.c. (12 cases), of 40 c.c. (8 cases), of 60 c.c. (4 cases), and of 80 c.c. (4 cases). In one case the injection (10 c.c.) was made intravenously.

The serum used in all cases was supplied by the British Institute of Preventive Medicine. In 32 cases a rash followed injection of the serum.

In 70 out of the 75 cases a bacteriological examination was made. In



65 cases the bacillus diphtheriæ was found. In 62 of these the culture was in the great majority of cases, whether taken from the larynx or fauces, a mixed one containing a few colonies of diplococci, staphylococci, and streptococci. In five cases no bacilli were found.

The following table shows the mortality of the cases treated by anti-toxic serum as compared with that occurring in the four previous years (1891-94):

|                                   | 1891.         |         | 1892.         |         | 1893.         |         | 1894.         |         | 1895.         |         |
|-----------------------------------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|
|                                   | No. of Cases. | Deaths. | No. of Cases. | Deaths. | No. of Cases. | Deaths. | No. of Cases. | Deaths. | No. of Cases. | Deaths. |
| Pharyngeal Cases.                 |               |         |               |         |               |         |               |         |               |         |
| Under 1 year.....                 | —             | —       | 1             | —       | —             | —       | —             | —       | 1             | —       |
| “ 2 years.....                    | 2             | 1       | 2             | —       | 4             | 2       | 1             | 1       | 5             | 4       |
| “ 3 “.....                        | 6             | 3       | 4             | 1       | 11            | 3       | 2             | 2       | 7             | 3       |
| “ 4 “.....                        | 4             | —       | —             | —       | 6             | —       | 2             | 2       | 4             | 1       |
| “ 5 “.....                        | 2             | —       | 5             | —       | 5             | —       | 3             | —       | 4             | 2       |
| “ 6 “.....                        | 1             | —       | 4             | 1       | 4             | —       | —             | —       | 5             | 1       |
| “ 10 “.....                       | 3             | 1       | —             | 2       | 10            | 1       | 8             | 3       | 8             | —       |
| “ 15 “.....                       | 3             | 1       | 3             | —       | 5             | —       | 6             | —       | 3             | —       |
| Over 15 “.....                    | 6             | —       | 1             | 1       | 19            | —       | 7             | 1       | 4             | —       |
|                                   | 32            | 6       | 35            | 5       | 64            | 7       | 30            | 9       | 45            | 11      |
|                                   | 18.7 p.c.     |         | 14.3 p.c.     |         | 10.9 p.c.     |         | 30 p.c.       |         | 24.4 p.c.     |         |
| Laryngeal Cases.                  |               |         |               |         |               |         |               |         |               |         |
| Under 1 year.....                 | 3             | 2       | 2             | 2       | 3             | 3       | 2             | 1       | —             | —       |
| “ 2 years.....                    | 4             | 3       | 7             | 4       | 5             | 4       | 5             | 3       | 8             | 3       |
| “ 3 “.....                        | 5             | 5       | 2             | 1       | 11            | 6       | 4             | 4       | 6             | 1       |
| “ 4 “.....                        | 4             | 3       | 5             | 3       | 6             | 5       | 4             | 2       | 3             | 2       |
| “ 5 “.....                        | 9             | 5       | 5             | 4       | 7             | 6       | 9             | 3       | 6             | 1       |
| “ 6 “.....                        | 4             | 3       | 2             | 1       | 2             | 1       | 6             | —       | 3             | —       |
| “ 10 “.....                       | 1             | —       | 2             | —       | 5             | 4       | —             | 3       | 3             | —       |
| “ 15 “.....                       | —             | —       | —             | —       | —             | —       | —             | —       | 1             | —       |
| Over 15 “.....                    | —             | —       | —             | —       | 2             | 2       | —             | —       | —             | —       |
|                                   | 30            | 21      | 25            | 15      | 41            | 32      | 34            | 16      | 30            | 10      |
|                                   | 70 p.c.       |         | 60 p.c.       |         | 78 p.c.       |         | 47 p.c.       |         | 33.3 p.c.     |         |
| Total mortality of all cases..... | 41.9 p.c.     |         | 33.3 p.c.     |         | 37 p.c.       |         | 39 p.c.       |         | 28 p.c.       |         |

Forty-six cases were admitted between the first and fourth days of the disease; 28 were admitted between the fifth and seventh days of the disease, and later.

#### CYSTITIS IN CHILDREN CAUSED BY THE BACTERIUM COLI COMMUNE.

Ten cases, all occurring in girls, are reported by Escherich (*Jarbuch Kinderhielkunde*, 1895), three following upon urethral inflammation. Four of the patients were from seven to nine years of age. The symptoms were present from five to eight days before treatment was com-

menced, and consisted of frequent urination, with slight burning and pain in the region of the bladder. The urine was scanty, and contained a copious sediment. The microscope showed pus cells, bladder and kidney epithelium. Cultures made from the fresh urine showed unmistakably the presence of bacterium coli.

#### BACTERIOLOGICAL EXAMINATION OF ONE THOUSAND CASES OF SUSPECTED DIPHtheria.

The following analysis of results obtained from bacteriological examination of 1,000 consecutive specimens of suspected diphtheria received at the British Institute of Preventive Medicine is reported in the *British Medical Journal*, February 1, 1896, by Hewlett and Nolan.

In 25 cases out of the 1,000, no growth appeared on the surface of the blood serum.

In 600 cases notes have been kept as to the organisms present in the cultivations, and are set forth in the following table :

| The following organisms were present alone or associated with the Bacillus Diphtheriæ. | Cases in which the Diphtheria Bacillus was present alone or associated with other organisms. | Cases in which the Diphtheria Bacillus was absent. |
|--|--|--|
| Bacillus diphtheriæ alone.....   | 216  | Pseudo-Diphtheria 2                                |
| Streptococci.....  | 6  | 32   |
| Micrococci.....  | 55   | 79   |
| Bacilli.....   | 19   | 41   |
| Torulæ.....  | 9  | 1  |
| Sarcinæ.....   | 6  | 2  |
| Streptococci and micrococci.....   | 2  | 23   |
| Micrococci and bacilli.....  | 9  | 19   |
| Streptococci and bacilli.....  | 1  | 5  |
| Torulæ and bacilli.....  | 1  | 3  |
| Sarcinæ and bacilli.....   | 0  | 3  |
| Micrococci (including streptococci) and sarcinæ.....                                   | 6  | 8  |
| Micrococci (including streptococci) and torulæ.....                                    | 4  | 14   |
| Many forms present together.....   | 19   | 15   |
|  | 353  | 247  |

These results are only approximate, as they are based on the more or less brief examination necessary to determine the presence or absence of the diphtheria bacillus, and no special pains were taken to observe all the organisms which might be present. It is noteworthy that the diphtheria bacillus was obtained practically in pure cultivation in no fewer than 216 out of the 353 cases in which it was found. In only six was it associated with the streptococcus alone, but too much stress must not be laid on this point, for in a number of instances the mode of transmission of the specimen was not favorable to the vitality of the streptococcus, and in others it was doubtless overlooked, or perhaps included among micrococci. All the forms of the diphtheria bacillus have been met with, but,

as we are alone concerned with the bacteriological examination, we are unable to throw any further light on their clinical significance, or on the import of the so-called pseudo-bacillus.

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NON-INTERFERENCE IN ABSCESS OF CHRONIC TUBERCULOUS DISEASE  
OF THE JOINTS.

Dr. Newton M. Shaffer, before the New York Academy of Medicine (*New York Medical Journal*, February 29, 1896), presented the conservative side of this question recently. He claims that notwithstanding the advance which has been made since the introduction of aseptic surgery, yet that abscesses which form from tubercular disease of joints are better without interference, provided that good mechanical support is given to the diseased structures. He emphasizes the difference between acute and cold abscesses, pointing out that in the latter there is a distinct condition, having the bacillus of tuberculosis as its cause. There is no apparent heat, and the general temperature is normal or nearly so. Pathologically, it is not a pyogenic abscess. Ogston, Cheyne, Collins, Warren, Senn, and Dr. John Dane have proved that these abscesses are sometimes absolutely sterile. The fundamental principle of mechanical treatment in chronic tubercular joint disease is: "*Protection to the diseased part with the maintenance of functional activity of the other parts of the body.*" He presents an analysis of the statistics of thirty-five cases treated upon these principles in the New York Orthopædic Hospital, with the following summary:

Of the thirty-five patients (all the abscess cases which have occurred in the hospital for over four years) twenty-six remained under the care of the institution for a sufficient length of time to test the value of the plan of non-interference.

Of these twenty-six patients three had each two distinct abscesses, making twenty-nine abscesses treated in all. In two of the double-abscess cases there were large bilateral ilio-psoas abscesses, and it is worthy of note, especially in connection with the cases of S. W. and J. B., that absorption of the abscesses occurred in all these cases.

Of the twenty-nine abscesses, eight (27.58 per cent.) underwent complete absorption; nineteen (65.51 per cent.), after opening spontaneously, closed under simple external dressings in periods ranging from two to twenty-one months; and in two (6.89 per cent.) there are still small sinuses discharging a few drops daily.

Of the twenty-nine abscesses, 93.09 per cent. have either closed or been absorbed.

Of the remaining nine patients, one was removed by her mother after our efforts, up to the time of removal, had failed to produce an adequate



joint protection on account of the location of the abscess. In one instance the abscess was nearly well when the patient entered the wards.

In seven instances the patients either entered the wards with phthisis pulmonalis, or had multiple joint disease, or were removed from the care of the hospital while under active treatment. Of these seven, five died, and two have small sinuses which discharge slightly.

In conclusion, I desire to say two things : (1) None of these patients were selected, and none were declined, on account of their condition at the time of their application. (2) I hope that others who hold different views, and especially those who practise incision, etc., will make reports of entire unselected groups of patients with tuberculous abscess of the joints. We shall then have a basis for intelligent comparison.

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#### TENDON TRANSPLANTATION IN THE TREATMENT OF PARALYTIC DEFORMITIES.

Dr. Goldthwaite (*Boston Medical and Surgical Journal*, January 9, 1896) discussed this subject and presented the results in several cases before the meeting of the American Orthopædic Association.

Probably the first operation of this kind was performed by Nicoladoni in 1881, who attached one of the peroneal tendons to the tendo-Achillis. The cases selected for the operation are those in which one group of muscles has been destroyed, leaving the antagonizing muscles little, if any, impaired. This condition, if not treated, results in a definite deformity simply from the muscular activity, and this becomes more marked as the age of the patient increases. Almost any joint may present deformity from this cause, but the most marked and the most frequently occurring cases are in the foot. Some of the active tendons in such a case will really do harm and not good, so that a greater gain is effected if the muscles that are thus active could be made to exert their power on a part of the extremity where they may aid in lessening the deformity. It is thus possible to furnish better mechanical attachments of the non-paralyzed muscles in the treatment of paralytic deformity. The best results are to be looked for in the cases in which one group of muscles is paralyzed, leaving the antagonizing group unimpaired. Four cases are reported after at least three months had elapsed since the operation. One case, that of an adult, after a lapse of more than a year. In all there was a marked improvement. In three cases the peroneus longus was attached to the tendo-Achillis, and the peroneus brevis to the flexor longus pollicis. In two cases the anterior tibial tendon was attached to the peroneus tertius. The tendons were attached by splitting one and drawing the other through this, and suturing them with quilted sutures.

## SLIPPING PATELLA.

E. H. Bradford (*Boston Medical and Surgical Journal*, February 20, 1895). This affection has received but little attention in surgical literature, although it is not of great rarity, and may occasion much discomfort. The affection is more common in girls and women than in men or boys. It is accompanied, as a rule, by little pain, but by a great sense of discomfort. Occasionally some effusion follows an attack. The patella can usually be replaced by the patient with proper movements of the limbs, but this is sometimes accompanied by pain. Sometimes an anæsthetic is necessary, in order to reduce the dislocation. There is a sense of insecurity in walking which may amount to a distressing disability. The affection is due to a lack of tonicity of the extensor muscles, and a laxity of the internal lateral ligaments passing from the internal condyle to the patella, and connected closely with the capsule. Absence of the ridge between the outer condyle and the articulating surface of the patella does not appear to be a cause. The accident takes place when the limb is in a flexed position rather than when it is straight.

Mechanical devices for retention have not been accompanied by much success; besides, they tend to exert pressure and produce atrophy of the muscles. No cure can take place except through the development of the muscles or altering the strength or length of the ligament, and massage and electricity must be looked to as important aids.

Bajardi described an operation which he performed upon a congenital case in a child of four, by excising a semi-lunar piece of the internal capsule and suturing the cut edges. The patient is reported as cured. He has collected thirty-four cases, but none of these were operated upon. In a case reported, a healthy young lady who suffered from slipping patella after the age of thirteen, various methods of treatment had been thoroughly tried, such as gymnastics, massage, electricity, and various forms of apparatus, without satisfactory advantage. Both knees were operated upon, and a semi-lunar incision was made along the inner side of the knee, one-half inch anterior to the tubercle of the internal condyle. The upper end of the incision extended three inches upward, and the lower portion curved so as to pass from the ligamentum patellæ at its insertion on the tubercle. The ligamentum patellæ was found one-half inch lower on the left side than on the right. It was also thinner than normal. It was, therefore, divided by means of an oblique incision passing from without inward and downward. The ligament was seized with forceps, and the patella pulled to the side without opening the joint, the serous surface of the synovial sac not being interfered with. The divided portion of the outer tissue forming the capsule and containing the ligaments was drawn to the inner side and stitched one-half inch nearer to the condyle. The

cut ligamentum patellæ was also drawn downward and inward one-half inch lower and slightly below the top of the tubercle of the patella. On the right side the loose capsular tissue was folded upon itself, and a pleat sewed at the side, half way between the patella and the internal condyle. The limbs were secured in plaster of Paris dressings. After removal of dressings mechanical supports were employed. The patient was allowed, at first, to walk with crutches, legs being kept stiff for two months. Appliances were discarded on the right side three months after operation, and on the left side five months after operation. Ten months after operation the patient appeared entirely well, has improved in strength and agility, and has been entirely free from any slipping of either patella.



## GYNÆCOLOGY.

IN CHARGE OF

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### ICHTHYOL IN GYNÆCOLOGY.

Dr. Malcolm Storer, after an extensive use of ichthyol, has reached the following conclusions :

"First : While ichthyol is by no means the gynæcological panacea that some observers have claimed it to be, still it has sufficient approved value to deserve a high place in our list of remedies.

"Second : While its chief action is to relieve pain, it does possess certain resorbent qualities which, in some cases, are relatively powerful.

"Third : That its use is unattended with danger and discomfort.

"Fourth : That it has not yet proved that it has any gynæcological value other than as a local application."

"In my own observations, made mostly in the gynæcological department of the Polyclinic Hospital during the past eighteen months, I confess to considerable disappointment in the results, or rather lack of results, obtained from the use of this drug.—*American Gynæcological and Obstetrical Journal*.

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### THE SURGICAL TREATMENT OF RETRO-DEVIATIONS OF THE UTERUS.

Dr. Augustin H. Goelet, of New York, in a paper read before the New York State Medical Society (Albany, January 28, 1896), declares that displacements of the uterus are not accorded the consideration they deserve, and that the routine plan of inserting a pessary and dismissing the case from further attention is an error too often committed. He thinks the majority of cases, especially those of long standing, where structural changes have taken place in the walls of the organ, require surgical intervention for their cure. The pessary alone is never sufficient, except, perhaps, in very recent cases. The concomitant metritis and endometritis must be overcome before a radical cure can be effected.

After discussing the merits of Alexander's operation and the intraperitoneal methods of shortening the round ligaments, and vaginal fixation, he described an operation for retroflexion which he had employed with success for the past twelve years.

The Alexander operation, which is only applicable in movable retro-deviations, he thinks unnecessary. Its chief disadvantage is the time it requires and the prolonged convalescence it entails.

Intraperitoneal shortening of the round ligaments requires more time for its execution, and the convalescence is longer than suspensio-uteri, and the results have not been so good.

Vaginal fixation is objectionable because it substitutes a fixed ante-flexion for a movable posterior displacement. The recent unfavorable reports of complications during labor following it offer another very serious objection to this operation. The best evidence of its inefficiency is that its originator, Mackinrodt, has abandoned it.

Where the uterus is fixed by firm adhesions, the author advocates opening the abdomen by means of a small incision, breaking them up, and suspending the uterus by its posterior face from the anterior abdominal wall. This does not fix the organ as when ventro-fixation is done. In time the uterus recedes from the abdominal wall, close to which it is at first suspended, and swings in an easy position of nearly normal ante-flexion. This he prefers to ventro-fixation because the uterus occupies a nearly normal position and is fairly movable. Its execution consumes less time than intraperitoneal shortening of the round ligaments. The results have been very gratifying.

When the adhesions are not very firm or extensive, they are broken up by manipulations under anæsthesia without opening the peritoneal cavity, and the case is then treated in the same manner as when the organ is movable.

The method of procedure which he advocates in place of Alexander's operation in movable retro-deviations has this to recommend it, viz., that it aims at a cure of the co-existing metritis and endometritis, the maintaining cause of the displacement, and requires but a week's confinement in bed.

For retroversion he dilates the canal, cures and packs the cavity with iodoform gauze. The vagina is then tamponed with the same gauze in such a manner as to throw the uterus into a position of anteversion. This dressing is removed every day, the cavity washed out with a one per cent. solution of lysol, and it is reapplied. This is done for a week, during which time the patient is confined to bed. Then a vaginal pessary is fixed to hold the uterus in a correct position. The cavity is irrigated twice a week until a healthy endometrium is reproduced.

For retroflexion the same procedure is adopted, but, instead of packing the uterus with gauze, a straight glass drainage-stem is used, which serves the purpose of a splint and keeps the uterus straight. It is then maintained in a position of anteversion by means of vaginal tampons of iodoform gauze. The gauze tampon and stem are removed every day, the cavity is irrigated to remove retained clots and débris, and, after cleansing the stem, it is reinserted. At the end of a week the stem is removed, a vaginal pessary inserted, and the patient is permitted to get up.

The success which he has obtained with this method leads him to believe that the other more complicated and hazardous operations designed for movable retro-deviations are unnecessary.



## Editorials.

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### ONTARIO MEDICAL COUNCIL.

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WE desire to call the attention of our readers to a resolution passed by the London Medical Association, which we have much pleasure in publishing in this issue. It calls attention to the fact that the Medical Council of Ontario maintains an efficient standard in matters pertaining to the medical curriculum, provides for proper registration, and puts forth strenuous efforts to prevent quackery and charlatanism on the part of licentiates and others. It also urges the members of the profession to pay their annual assessment fees for maintenance. We are quite in sympathy with those who favor economy of the most rigid sort, but there are certain necessary expenses which, at the present time, cannot be paid by the fees collected from the students. It also calls attention to the fact that it is not fair that a certain proportion should pay their annual fees, while others who refuse to pay should be allowed to defy the council in this particular. We hope that the great mass of the profession in Ontario will pay their fees as soon as possible.

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### CIVIC HEROISM.

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ABOUT eighteen years ago the late Dr. Richard Zimmerman, of Toronto, after performing a tracheotomy, sucked the matter through the tube. Fortunately, this rash act did no harm to the doctor ; unfortunately, it did no good to the child. It is difficult to decide whether, under such circumstances, an operator is entitled to praise or censure, or whether he should have a little of both. A writer in the *British Medical Journal*, February 29, in referring to a somewhat similar case, under the above heading, "Civic Heroism," speaks very sensibly on the subject, and we give his article in full :

"Dr. Ernest Helby, resident medical officer at the Croydon Fever Hospital, has lately saved a child's life by sucking the diphtheritic membrane from its throat after tracheotomy ; he caught the disease, suffered some paralysis, and was for a time in danger of death. We are happy to say that he has now, under the antitoxin treatment, made good progress

towards recovery. It is difficult to say the right thing when one hears another instance of this act of devotion ; proverbs and texts fight in one's mind against each other, and it is hard to venture to blame him at all, and hard to praise him without reserve ; but of one thing we are sure, that he deserves and has won the respect and admiration due to a man who is ready to lay down his life for a child. There is a story somewhere in history of a man who saved his country by methods of his own, which did not meet with the approval of the government, and we may say at once that it was not the Transvaal. The government crowned him, honored him, and gave him a triumphal procession, and then executed him for breaking the law of the land. We would mix a little reproach with a great deal of praise for Dr. Helby, and tell him that other lives as well as the child's life are bound up with his own, and we hope he tried suction with a syringe before he put his lips to the tube, and did all that was possible to avoid the danger of infection. But it is pleasant to stop our criticism at this point, and to assure him of our most sincere admiration of his absolute devotion of himself to save the life of a child."

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### THE OVERLAPPING OF SPECIALTIES.

IN the present age of rapid advancement in medical science, it is practically impossible for any one man to keep abreast of the times in all branches of the profession, and specialties are therefore a necessity. Yet it is a most difficult task to delimit any specialty too strictly.

We republish among our selected articles a clinic delivered by Dr. C. B. Kelsey, of New York, on "The Relation of Rectal Surgery to other Specialties." This clinic very ably demonstrates the great difficulty in the way of confining one strictly to a particular branch, especially when the diseases common to that part of the body are frequently occasioned by some pathological change in neighboring organs. An editorial in the *New York Medical Journal* so thoroughly meets our approval that we extract the following portion :

"Specialism itself, even when liberally defined, is to some extent objectionable ; it is accepted in large communities, where alone it is practicable, because of certain counterbalancing advantages. Certainly that spirit of rigid specialism which would set up the recto-vaginal septum, for example, as a barrier not to be crossed by either the gynæcologist or the rectal surgeon can in no wise be defended. Indeed, it is doubtful if so extreme a view, however it may tickle the laity, is held by any member of the medical profession ; nevertheless, it is edifying to have the necessity of the overlapping of specialties so lucidly set forth as it has been done by Dr. Kelsey. The clinical basis, too, is the one proper foundation for such

an exposition, showing as it does how disease of a particular organ or area is prone to lead to disease, or at least to prominent manifestations of disease, in adjacent organs or areas, or those having intimate nervous connection with the seat of the original trouble.

"Dr. Kelsey, however, has dealt only with the relations between rectal surgery and that aspect of gynæcology which often involves abdominal section; but that alone is suggestive enough to call up in the mind of the reflective reader the numerous other like correlations of specialties, and the practical inference cannot fail to be drawn that, in order to practise a specialty with justice to one's patients and to one's self, one must have something more than a dim remembrance of such reflex symptoms and their significance as are exemplified by pain in the knee and hip-joint disease—one must recognize, and bear always in mind, that lesions which he may discover or think he discovers in the domain that forms the subject of his own special study are not necessarily all that he has to concern himself about in the task of restoring health. He should continually ask himself what may be wrong in other parts of the patient's organism and be contributing to give rise to the symptoms of which the patient complains, and, if reasonable probability of the existence of such a contributory source of trouble appears, proceed to ascertain what it is and whether or not it is within his power to remedy, or else to settle once for all that the probability is not a reality. Of course there are limitations to what can be expected of a practitioner in this way; everybody who is not an ophthalmologist, for example (except the neurologists, and perhaps the 'refracting' opticians), stops short at the eye, knowing how absolutely incompetent he is to examine that organ.

"There is nothing new in all this, nothing that well-trained practitioners of medicine have not always recognized; but it needs to be presented now and then to those who are inexperienced. Assuredly it is appreciated by the general practitioner, that real head of the medical profession. If he is of the right kind, he starts in practice, not with the conviction that he 'knows it all,' but feeling that, however carefully he has been taught, he has still to educate himself. He sees that the first thing for him to do is to acquire the power of perceiving when he is getting into water too deep for him—when, in other words, he should ask for a consultation. When he has ripened he will ask for few consultations, but will always consent to one, unnecessary as he may know it to be, when the specialty-struck patient or his friends suggest it. In short, he is, or ought to be, oftener called in consultation by the specialists than he finds himself inclined to call on them for aid."



# Meetings of Medical Societies.

## TORONTO MEDICAL SOCIETY.

THE regular meeting of the above society was held on February 20, 1896; Dr. William Oldright, the president, in the chair.

### POPLITEAL ANEURISM.

Dr. W. J. Wilson presented a patient with a healed popliteal aneurism. Occupation, plasterer. Syphilitic history. One day, while standing at work at his bench, he felt a pain behind the right knee, which greatly increased in severity, so that next morning he was unable to walk. A tumor appeared at the seat of the pain, with expansive movement. It grew to the size of a hen's egg. Compression failing to relieve the condition, the femoral artery was ligated in the apex of Scarpa's triangle. The tumor disappeared, and in three weeks the patient was walking about. This was twelve years since. No tumor could be detected, but the scar was very plain.

### LUPUS.

Dr. F. N. G. Starr presented a boy suffering from lupus of the left cheek. It commenced two years previous by the appearance of a purple spot. Others appeared in numbers on the face and legs. The boy's history and appearance pointed to the tubercular diathesis. The spots vary in size from a grain of sago to a split bean. They are quite nodular on firm palpation. Some of them are covered with desquamated epithelium, and others depressed in the centre. None of them are apple-jelly in character. Small white nodules like bubbles of mucus are to be seen on the nasal septum, the tips of the inferior turbinated bones, the soft palate, and the epiglottis.

### EMPHYEMA FOLLOWING PNEUMONIA.

Dr. A. R. Gordon read the report of a case in which empyema followed an attack of pneumonia and pleurisy of the lower lobe of the right lung. The pneumonic attack subsided by lysis; treatment on the expectant plan having been followed. No expectorants or antipyretics were required. The pleuritic effusion increased after the subsidence of the acute attack. Aspiration on the twenty-fifth day revealed pus, eight ounces, withdrawn

with considerable relief. But again continuing to form, aspiration was again done, with a similar result. Incision and drainage were then tried with success. The day following this the abscess burst into a bronchus, and large quantities of pus were expectorated. Physical signs disappeared. On washing out the cavity with peroxide of hydrogen the patient was suddenly seized with severe pain in the hands. Pulse was 108; dropped to 90, 80, 70, and 58 in the five following minutes; then gradually rose to 72, and remained there. Respirations decreased in rate from 26 to 14, rising to 18 or 20. Tingling over the distribution of the ulnar nerve followed the subsidence of the pain. On exploring the wound a cavity the size of an orange was discovered. Healing took place, and the patient gained forty pounds in two months. For the loss of sensation and muscular atrophy massage and galvanism were given with good effect.

THE regular meeting of the Toronto Medical Society was held on February 27, 1896; Dr. William Oldright, the president, in the chair. The minutes of last meeting were read and adopted.

#### CARCINOMA OF THE LIVER.

Dr. Gilbert Gordon reported a case of carcinoma of the liver. The patient was an energetic, active business man, whom he treated first on the 27th of July for a pain between the ribs and the ilium, and for constipation. The fæces were made up of small scybalous balls. The pain increased, and was accompanied with hæmorrhage from the rectum, which, it was thought, was probably due to piles. There was a certain amount of prolapse of the bowels. The condition was relieved by astringent enemata. On a careful examination made about the 1st of September, the liver was found to be noticeably large and it increased in size rapidly, and soon a nodular condition could be noted on palpation. Malignant disease was suspected. Several eminent men of the profession were consulted, but none of them thought it was cancer. One of the most marked symptoms was constant dryness of mouth and throat, which caused a great deal of discomfort and was difficult to treat. All sorts of washes were tried, but without effect. This condition was probably due to an accompanying gastritis. The pain, which was particularly severe on movement, was easily controlled by morphia. The dose at first was a quarter of a grain; the amount reached before death six grains per day. He was able to continue at his business till four weeks before death. Restlessness and irritability were prominent symptoms. There was no jaundice present, except a slight passing attack on one or two occasions. Towards the last oedema of the lower extremities and ascites were quite marked.

Dr. C. J. Hastings thought the clinical history pointed strongly to cancer. He asked what other diagnosis had been made.

Dr. McPhedran said the absence of jaundice was not a matter of surprise, as none of the nodules there, doubtless, was any obstruction to the ducts.

Dr. Anderson reported on the post-mortem condition. The liver weighed twelve pounds, and was studded with carcinomatous nodules, which had begun to degenerate. The primary focus was found in the rectum. There was there a lacerated surface which involved the whole thickness of the wall. There was no obstruction to the lumen, as the cancer had sloughed away as it grew, so that the tumor in the rectum seemed comparatively insignificant. Microscopical section showed it to be a malignant adenoma. The tubules were filled with epithelium, which in many spots had broken through the membrane.

Dr. C. J. Hastings presented a specimen of myxomatous degeneration of the placenta. He said an interesting feature of the case was the difficulty of diagnosis. She had been married a year and a half, and this was her first pregnancy. The patient had used all efforts to restore the menstrual function. About six weeks ago he was called in, the patient complaining of having a slight bloody discharge. She had been drugging herself without effect, and had introduced a catheter and injected water, which had given rise to severe pain ; but this had subsided. On examination, no dilatation of the os was found ; there was a slight sanguineous discharge. She was ordered to bed and given uterine sedatives. Patient was kept in bed four weeks, but at the end of this time the condition was not improved, and, as her general health was suffering, she was allowed to get up. As far as he could learn, there was no discharge from the cyst. She went on to the fifth month. The uterus did not seem any larger than one would expect to find in a case of normal pregnancy. On examination, the cervix was found to be dilating satisfactorily, and, as there was little or no hæmorrhage, the case was left to nature. After six hours of pretty severe labor pains the doctor introduced two fingers, getting the mass away. He could not discover the fœtus. He called attention to the fact that this condition had been improperly referred to as a hydatid mole. It was generally agreed that the vesicles were formed from the chorionic villi which had undergone proliferation, followed by myxomatous degeneration. The cysts contained mucin, albumin, and salts. He called attention to the fact that they had been improperly compared to a bunch of grapes. The cysts, instead of each having a separate connection, were each attached to the other by a pedicle. The condition must, of necessity, occur during the first ten weeks of pregnancy ; after that date the villi become vascular and the placenta definitely formed. The causation was on the maternal side. It occurred very rarely in primipara. In the case reported he thought, in the efforts to bring on the miscarriage, the



ovum had been disturbed, and that a subacute inflammatory condition had been brought about in the endometrium, or in the membranes of the ovum itself, giving rise to the slight discharge. The health of the patient was very good all the way through. There were no pains in the lumbar region.

Dr. Oldright reported having seen a specimen before which was contributed by Dr. Winstanley to the pathological museum of the Toronto University.

Dr. A. R. Pyne reported having had a case in practice, occurring about the fifth month, which was very similar to the one presented.

Dr. W. J. Wilson said that he had seen one which was very much easier to diagnose than the one reported. The uterus enlarged very rapidly. He did not remember finding any foetus. In that case there was no attempt at interference.

Dr. Edmund E. King gave a demonstration of the apparatus used in producing photographs by the "X" rays. He described how Professor Roentgen had accidentally discovered this method, and detailed the experimentation that followed it. Hertz and Leynard had, some three years ago, found that a sensitized plate was affected by rays coming through an aluminium window in a tube of high vacuum. The doctor referred to the various experiments that had been made in photographing various parts of the body, and spoke of the possibilities of the discovery. Experimentation for the time was checked by the scarcity of the Crookes tubes. He referred to the advance in the method that had been made in the University of Toronto by reducing the time of exposure to a few seconds by the use of a bell-jar.

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#### PATHOLOGICAL SOCIETY OF TORONTO.

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THE regular meeting of the Pathological Society of Toronto was held on Saturday, January 25, 1896. The following members were present: Drs. Carveth, Thistle, W. Oldright, H. Oldright, McKinnon (Guelph), Graham, W. J. Wilson, Peters, Primrose, Cameron, and Reeve.

Dr. H. H. Oldright read his paper on

##### CARCINOMA OF THE COLON,

and presented gross and microscopic specimens of the tumor.

The specimens which I present to-night are from a cancer of the descending colon at its junction with the sigmoid flexure, with secondary growths in the liver, and accompanied by purulent pylephlebitis. The subject had for years taken alcohol to excess.

Was seen for the first time by a medical man five days before death, during which time he had febrile disturbance, and collapsed presumably from perforation of the stomach.

Post-mortem examination showed extensive atheroma and calcification of the arteries.

There was a perforation of the duodenum, but no peritonitis.

Colon was constricted above the bend of the sigmoid flexure from an ulcerated growth which also involved a gland next it.

The liver was enlarged—weight about ten pounds—studded all over the surface with umbilicated cancer nodes varying in size.

Cut section shows the same thickly set nodes in various stages of formation and degeneration. Small collections of greenish pus in some branches of the portal vein.

Peri-bronchial gland enlarged and calcified, measuring  $2 \times 1\frac{1}{2}$  inches.

Microscopic section of the growth from the colon shows that the mucosa has been almost entirely replaced by cylindriform cancer cells, arranged with more or less regularity in the form of acini, some having one lining layer of cells, others with cells in the lumen.

In the submucosa the stroma of spindle-shape connective tissue cells is replaced at places by rows of acini, cut either in the long or transverse diameters.

In one part are seen two vessels side by side, with the growth encroaching on the adventitia, about which there is an extravasation of red and white blood cells, and a process of cancer cells is passing down into the angle where the two circumferences meet.

On the free surface of the growth is a detritus of broken-down cancer cells, pus corpuscles, and fibrin.

The microscopic section of the liver shows the same formation of cylindriform cells arranged like the acini of glands as in the growth from the colon.

There is in parts some sclerosis in addition to the cancerous invasion.

The acini are in parts thickly crowded together, in others isolated. Surrounding some single acini is the normal parenchyma.

In other places the hepatic cells have been pressed on and destroyed, then replaced by strands of fibrous tissue, which surrounds the new growth elements.

In one part of the section the capsule of the liver has not been invaded; then as we follow along its border the invasion increases in extent, and the thinnest part is the bottom of an umbilication.

In the centre of this umbilicated node fatty degeneration of the cancer cells has occurred. On the slide with the section of the intestinal growth are also mounted sections of the spleen and heart, the latter showing brown atrophy in the muscle cells.

Dr. Thistle presented a microscopic slide from a case of carcinoma of the breast. He had removed the tumor with the axillary glands three

years ago, and, although the glands were extensively involved, there had been no return of the disease so far.

Dr. McKinnon, Guelph, showed a cyst which was removed from the abdominal cavity. It had a connection with the small intestine.

Dr. George A. Peters exhibited a section of nerve which had been divided three years ago.

#### DEGENERATION OF NERVES AFTER SECTION.

Dr. George A. Peters: The specimen is from a lad aged about 18, whose ulnar nerve was divided just above the annular ligament by an axe, some three years ago. There was complete paralysis of all the muscles of the hand supplied by that nerve, viz., the little finger group, the adductor pollicis and half the flexor brevis pollicis, the two inner lumbricales, and all the interossei. The characteristic deformity resulted, viz., extension of the first and flexion of the last two phalanges of the fingers, and fixed abduction of the thumb. Sensation was perfect over the posterior aspect of the little and ring fingers, the dorsal cutaneous branch of the ulnar being given off above the point of section; but in the palmar aspect sensation was absent over the ulnar side in the parts supplied by the ulnar nerve. On cutting down, in order to suture the nerve, it was found that the ends were separated laterally to the extent of about three-quarters of an inch, the tendon of the flexor carpi ulnaris being interposed between them. This tendon had evidently been partially divided, and the scar tissue formed in the healing of the wound had drawn it towards the radial side so that it quite overlapped the lower segment of the nerve. The lower end of the upper segment maintained its normal relations to this tendon. This segment was very much enlarged, a bulb about five-eighths of an inch in length and three-eighths of an inch in thickness being formed upon it. This bulb is found to be made up of fibrous tissue, with few or no nerve fibres.

The lower segment was very easy to find, and seemed to be of about normal size. It had, however, lost the somewhat translucent, lustrous appearance of a healthy nerve, and appeared of an opaque yellowish-white color and somewhat less firm character than normal. Section of this segment also shows fibrous degeneration and total absence of normal nerve fibres.

Authorities state that nerves begin to degenerate very soon after section. Conductivity is lowered by the middle of the first week, and is entirely abolished by the end of the second week, failing to respond to either the constant or the interrupted current.

Direct excitation of the muscle shows lowered irritability to both the voltaic and faradic currents during the first two weeks. Subsequent to



this time the muscles fail to respond to the faradic current, but their excitability to the constant current becomes excessive, and remains so for several months, disappearing altogether in a year or more.

Degeneration sets in in the peripheral end of a divided nerve about four days after its separation from the nervous centres. The nuclei of the primitive sheath of Schwann proliferate. The medullary sheath undergoes segmentation, then breaks up into globules, and disappears in about a month. The axis cylinder breaks up later, but disappears in a few weeks. In the central end the degeneration commences later, and extends only a short distance, usually to the first node of Rouvier.

Dr. Graham asked: Does the irritation arise from peripheral sensory nerve plates, the supply of the motor fibres being cut off?

Dr. Carveth cited a case of section of the sciatic where the nerve had decreased to half the size, union having taken place.

Dr. Peters, in reply, said the nuclei proliferate and maintain the bulk of the nerve, and the axis cylinder is formed from these nuclei. He mentioned a case of restoration in forty-eight hours, even after two and a half years' separation.

The brain requires re-education, showing that the axis cylinders do not join their proper ends.

Sensory nerves have wide terminal anastomoses, but motor nerves not so.

Dr. Cameron presented a tumor of the ovary, papillomatous in nature.

The meeting then adjourned.

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#### LONDON MEDICAL ASSOCIATION.

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**C**OPY of a resolution passed at a regular meeting of the London Medical Association, February 10, 1896.

Moved by Dr. Ferguson, seconded by Dr. Arnott, and resolved:

That the London Medical Association recognizes the services rendered to the medical profession by the Council of the College of Physicians and Surgeons of Ontario, in maintaining an efficient standard of medical education for students, providing for the registration of licentiates, guarding the rights of registered practitioners, prosecuting unlicensed practitioners, and erasing the names of practitioners guilty of infamous or disgraceful conduct in a professional respect.

This association accordingly holds it to be the duty of every member of the College of Physicians and Surgeons of Ontario promptly and loyally to pay the annual assessment fee levied, in accordance with the

provisions of the Ontario Medical Act, for the maintenance of the general expenses of the college; and it is further claimed that members of the college taking exception to any of the administrative acts of the council should seek reforms by way of the medical electorate rather than by attempting to withhold the payment of assessments authorized by the statute and indispensable to the very existence of the council.

Yet this association begs to protest against by-law No. 69, passed by the council on the 23<sup>rd</sup> of June, 1895, which suspends the penal clause of section 41 of the amended Medical Act for Ontario until June 1, 1896, and then to come into force only "in case a sufficient amount of dues is not paid in to cover the bank liability." This association submits that said qualification is grossly unjust to members of the profession who have paid or may pay their assessment prior to June 1, 1896, and affords a loophole to delinquents who are disposed to shirk payment of their fees. The association recommends the Ontario Medical Council either to rescind said clause of the by-law, or, otherwise, to furnish every member, on payment of his fee, a guarantee that no other member shall be permitted to escape payment of his legal indebtedness to the council.

And resolved, further, that a copy of these resolutions be forwarded to the Registrar and to the medical journals of the province.

## Book Reviews.

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THE PRINCIPLES OF SURGERY. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College; Professor of Surgery, Chicago Polyclinic; Attending Surgeon to Presbyterian Hospital, etc., etc. Illustrated by 178 engravings and colored plates. Philadelphia: The F. A. Davis Company. Toronto: A. P. Watts & Co.

We have had before us for some time the second edition of this most popular work. Dr. Senn undoubtedly found a vacant spot in medical literature, and supplied an elaborate treatise to fill it. That he was successful is shown by the necessity of a second edition, in which the subject is brought up to date. The principles of any branch of medicine are the essential foundation of accurate and thorough work, and should be mastered by all. The operative technique is a part of surgery that is easy of application when the principles have been thoroughly grounded. The mastery of the principles enables one to grasp difficult situations readily. We can most heartily recommend this work to the practitioner or student. The reading matter is written in an easy style, that adds much interest to the subject. This work is an intimate companion to the "Pathology and Surgical Treatment of Tumors," reviewed in the January issue of THE PRACTITIONER. The illustrations of the volume, though, cannot be as highly spoken of as the letter-press. It is, in our opinion, better to have fewer illustrations, admirably and accurately executed, than to have a greater number indifferently done. These remarks apply to a large proportion of the medical works now put forward. It is a work that the value of any library will be increased by possessing.

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The following books and pamphlets have been received:

MOVABLE KIDNEY. By Charles P. Noble, M.D., Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia. Reprinted from *Gaillard's Medical Journal*.

NEPHRITIS OF THE NEWLY BORN. An address delivered before the Medical Society of the District of Columbia, November 28, 1895. By A. Jacobi, M.D., New York. Reprinted from the *New York Medical Journal* for January 18, 1896.

A CONSIDERATION OF CERTAIN DOUBTFUL POINTS IN THE MANAGEMENT OF ABORTION. By Charles P. Noble, M.D., Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia. Reprinted from the *Therapeutic Gazette*, January, 1896.



A CASE OF DERMÖID TUMOR OF BOTH OVARIES COMPLICATED BY A DEPOSIT OF BONE UPON EACH SIDE OF THE TRUE PELVIS, HAVING NO CONNECTION WITH THE TUMORS. By Charles P. Noble, M.D., and Joseph P. Tunis, M.D. From the *American Journal of the Medical Sciences*, December, 1895.

DISEASES OF CHILDREN. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. New eighth edition; revised and rewritten; in handsome octavo volume, 988 pages, 273 illustrations. Cloth, \$4.50; leather, \$5.50. Philadelphia: Lea Brothers & Co.

THE FUNCTIONAL EXAMINATION OF THE EYE. By J. Herbert Claiborne, Jr., M.D., Adjunct Professor of Ophthalmology in the New York Polyclinic; Instructor in Ophthalmology, College of Physicians and Surgeons, New York; Assistant Surgeon to the New Amsterdam Eye and Ear Hospital; author of "Theory and Practice of the Ophthalmoscope." 100 pages, with 21 illustrations. Price, \$1. Philadelphia: The Edwards & Docker Co., 518 and 520 Minor street.

SYPHILIS IN THE MIDDLE AGES AND IN MODERN TIMES. By Dr. F. Buret, Paris, France. Translated from the French, with notes by A. H. Ohmann-Dumesnil, M.D., Professor of Dermatology and Syphilology in the Marion Sims College of Medicine; Consulting Dermatologist to the St. Louis City Hospital, to the St. Louis Female Hospital; Physician for Cutaneous Diseases to the Alexian Brothers' Hospital; Dermatologist to Pius Hospital, to the Rebekah Hospital, to the St. Louis Polyclinic and Emergency Hospital, etc., etc. Being Volumes II. and III. of "Syphilis To-Day and Among the Ancients," complete in three volumes. 12mo, 300 pages. Extra cloth, \$1.50 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

## Medical Items.

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DR. W. W. JAGGARD, of Chicago, died in that city of appendicitis on January 30.

VIRCHOW DECORATED.—The decoration of Commander of the Legion of Honor has been conferred upon Virchow by the President of the French Republic.

W. B. MCKECHNIE, M.B., and Thos. W. Jeffs, M.B., of the Toronto University class of 1895, have recently passed the British Columbia Medical Council examinations, and have located in the Pacific province.

TO KEEP HORSES FROM BALLING.—Many of our readers, compelled at this season to drive over snowy roads, will be glad to learn that when glycerin is applied to the soles of the horses' hoofs "balling" is effectually prevented.—*New York Medical Record*.

A DIFFERENCE.—Criticus: "I don't believe there's much difference between genius and insanity."

Struggling Author: "Oh, yes, there is; the lunatic is at least sure of his board and clothes."—*Tit-Bits*.

A SPECIFIC FOR HEADACHE.—In Paris a new novel entitled "A Victim of the Guillotine" is all the rage just now. It is advertised on large posters at the street corners. By a singular chance one of these posters was partially covered by the advertisement of some patent medicine, which made it read as follows: "A Victim of the Guillotine—no more headaches."

DR. A. F. A. KING has resigned from the staff of the Columbia Hospital in Washington because he would not countenance the unjust treatment of a member of the staff by a lay member of the board of directors. Dr. King's course, says the correspondent of the *Journal of the American Medical Association*, is cordially appreciated by the members of the medical profession in Washington.—*New York Medical Record*.

OUR friend Dr. John Campbell, formerly of Seaforth, and well known for many years as an active worker in the Huron, Ontario, and Canadian Medical Associations, is now practising in Brooklyn, N.Y., and we are glad to learn that his prospects are very bright—in fact, he is already doing a good practice, having bought the residence and good will of Dr. J. A. McLeod, 669 Leonard street. Dr. Campbell graduated in McGill in 1869, and became L.R.C.P. & S. Edin. in 1882. Since leaving Canada he passed the examination of the State

Board of New York State. His many friends in Canada, who regret his departure from this country, will be glad to hear of continued success in his new field of work.

PHYSIOLOGY.—The following composition by a twelve-year-old schoolboy was the cause of his being recommended to take a special course in physiology the next term. The theme given him was "Breath." "Breath is made of air. We always breathe with our lungs, and sometimes with our livers, except at night, when our breath keeps life going through our noses while we are asleep. If it wasn't for our breath, we should die whenever we slept. Boys that stay in a room all day should not breathe; they should wait till they get outdoors. For a lot of boys staying in a room make carbonic acid, and carbonic acid is more poisonous than mad dogs; though not just the same way. It does not bite; but that does not matter as long as it kills you."—*Bristol Medico-Chirurgical Journal*.

TO ABOLISH THE OFFICE OF CORONER.—A bill has been prepared under the auspices of the Medical Society of the State of New York abolishing the office of coroner when the present terms of those holding the office shall have expired. It will be presented to the State legislature without delay, and provides for the appointment by the appellate divisions of the Supreme Court of medical examiners and assistant medical examiners, four in each class, two of whom shall be an expert pathologist and an expert chemist respectively. The salaries of the principals are not to exceed \$5,000 yearly, paid by the State, while the counties in the different appellate divisions of the Supreme Court throughout the State pay the assistant examiners. The examiners and their assistants are to have all the power and privileges which are granted to the present coroners.—*New York Medical Record*.

PULMONARY HOSPITAL.—Notice has been given of an application to Parliament for an act to incorporate "The National Sanitarium Association," with power to establish, equip, maintain, and conduct, in such place or places within the Dominion of Canada as may be decided upon, a public institution, or institutions, for the isolation, treatment, and cure of persons affected with pulmonary disease. Applicants: Hart Almiron Massey, Toronto, manufacturer; Sir Donald Smith, K.C.M.G., Montreal; William James Gage, Toronto, publisher; James Ross, Montreal, railway contractor; Hon. Mr. Meredith, Chief Justice of the Common Pleas Division of the High Court of Justice; George Albertus Cox; George Washington Ross, Minister of Education for the Province of Ontario; Edward Gurney, manufacturer; Hugh Blain, merchant; Newton Albert Powell, physician; and Daniel Edward Thomson; all of Toronto.

STARVATION AMONG PARIS PHYSICIANS.—We learn from the Paris correspondent of the *British Medical Journal* that Dr. Langlard, after fifty years of honorable practice, found no other way of escaping starvation than suicide. It is estimated that there are twenty-five hundred medical men battling with starvation, borne down by heavy rent and taxes. Year by year the number of medical men increases, while, owing to the progress of hygienic science, and



still more to the disastrous competition of the hospital out-patient rooms and private gratuitous clinics, the number of patients decreases. It is the doctors themselves, says M. Lutaud, who have created their own misfortunes. They have taught lady patronesses of different societies to diagnose diseases, to dress and bandage wounds, to vaccinate their own children and those of their neighbors. Medical science is vulgarized in every way. Doctors write in important daily papers explaining how bronchitis and cramps of the stomach are to be cured, and in fashion journals they teach how to cure pimples and avert headaches. Furthermore, they have urged that hospital treatment be paid at the rate of 4s. 2d. per day; the middle classes profit by this tariff to become hospital patients, their conscience at ease since they pay. Five hundred thousand gratuitous consultations are given yearly in Paris dispensaries, and in this way a large amount of fees is diverted from the medical profession. M. Lutaud includes in his indictment the Associations des Dames, more or less patriotic, which send forth thousands of women who, because they have attended a few medical lectures and walked the hospitals for a few weeks, believe themselves to be something very like doctors, and treat their families and friends. This school of medical half-knowledge has been created and kept going by medical men, who are now being crushed by the work of their own hands.—*Medical Record*.

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THE MORISON LECTURES, EDINBURGH.—The first of the series of six Morison lectures on "Nerve Tracts and Connections of the Special Nerves in the Spinal Cord, Mid and Hind Brain," was given at the Royal College of Physicians, on February 7, by Dr. Alexander Bruce, the lecturer for the current year. He discussed the entry of the posterior roots into the cord, their division, subdivision, and distribution as seen on transverse section; the formation of the postero-median column, and its constant relation of shape to the level of the cord; the relative positions of the long fibres of the various nerve roots within the postero-median column; the relative positions in the postero-external column of the entering fibres from the cervical and dorsal region; the analogy between the postero-median and postero-external columns, both containing fibres of long and also of shorter paths, but differing in the nuclei in which they terminate, and in the spinal nerve roots from which they arise; the descending fibres of the posterior roots occupying, in the cervical region, the comma-shaped area of Schultze, but in the lumbar region being much more diffused over the posterior column, and forming also a special tract, near the posterior median fissure in the "oval field of Flechsig." There was a very large attendance, including a number of ladies. The lecture was fully illustrated by magnified microscopic specimens and diagrams.

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#### A NAVAL SCANDAL.

*The Practitioner* rejoices that Mr. Labouchere, that doughty champion of victims of the oppressor's wrong or the insolence of office, has entered the lists on behalf of Mr. Francis J. Lea, late surgeon in the Royal Navy, who was last May dismissed the service by the sentence of a court-martial. Mr. Lea has

been very badly used by the naval authorities for conduct which should have earned him their thanks. Briefly, the facts are as follows : Surgeon Lea, an old University College man, who entered the service in 1883, was appointed to H.M.S. *Ringarooma* on May 9th. On joining he received a hint from the surgeon whose place he was taking that the captain was of "strange temperament." Mr. Lea soon found that his superior officer's eccentricities were the talk of the ship. The captain had exalted ideas about his own powers and accomplishments, and in August, 1894, ran his ship aground on a coral reef, apparently owing to his wish to display his skill with the gun. Mr. Lea's uneasiness about him was increased by the discovery that a brother of his had been the inmate of an asylum near Sydney for more than twenty years. Mr. Lea consulted his colleagues in the other ships on the station as the opportunity arose, and they agreed in advising that if the captain got worse he should be sent to a hospital on shore, in order that his condition might be further investigated. As graver symptoms developed, Mr. Lea became more and more concerned about his patient. The crisis came on April 17th, 1895, when the *Ringarooma* was getting ready for sea ; on that day the captain, who was in an extremely excited state, gave Surgeon Lea an order to fix, with his own hands, a table which it took two strong men to lift, and four to place in position. Mr. Lea respectfully asked to have this extraordinary order given in writing. The *Ringarooma* was to proceed to sea on the following day, and Surgeon Lea, feeling strongly that the safety of the ship and the lives of the crew would be in danger if commanded by an officer in such a condition, felt it his duty to place the captain on the sick list. The captain refused to submit to this, and placed the surgeon under arrest. Mr. Lea was then tried by court-martial on a charge of "insubordination and contempt." The court ruled out all evidence relating to the captain's state of health as irrelevant, and treated the case solely as a matter of discipline. The result was that an officer of unblemished record, who was within a few months of completing a period of twelve years' service that would have entitled him to a gratuity of £1,500, was put ashore at Sydney to find his way home as best he could. The finding of the court-martial excited the greatest indignation in Australia, where the facts of the case were well known. A handsome subscription was got up by the medical profession to enable Mr. Lea to come home and try to get justice, and the New South Wales Branch of the British Medical Association passed a resolution of sympathy with him ; its honorary secretary, Dr. Ralston Huxtable, further conveyed to him the opinion of the Council that the course of procedure adopted by the court-martial was such as to deny him a fair trial on the real issues involved. This opinion will, I feel convinced, be shared by every reasonable man except certain martinets whose one idea of naval military administration is embodied in Mr. Bagnet's maxim, "Discipline must be maintained." The principle is sound enough, no doubt, but its application must be controlled by common sense, otherwise it is apt to become a screen for official tyranny and injustice. By refusing to receive evidence as to the captain's state of health, the court simply ignored the vital issue in the case they had to try. Justice is proverbially blind, but it is to be hoped that she does not often wilfully shut her eyes in this amazing fashion. The Admiralty



adopted the same policy, and in answer to a question by Mr. Henniker Heaton, in the House of Commons, Mr. Goschen implied that there were no grounds for believing that the captain was in a state of health that made him unfit to be in command of one of Her Majesty's ships. The First Lord of the Admiralty added that Mr. Lea should have asked counsel of the medical officers of the other ships on the station. Mr. Goschen ought to have known that this is just what Mr. Lea tried to do, but when, at his invitation, his colleagues came on board, they were not allowed to see him. It is a highly suggestive coincidence that a full statement of the medical aspects of the case was, for the first time, laid before the First Lord of the Admiralty on October 9th, and that among the Admiralty appointments in the *Times* of November 4th that of a new captain to the *Ringarooma* should be announced. The significance of this announcement lies in the fact that in the ordinary course the term of the captain's command would not have expired till the end of January. The matter cannot rest here. Englishmen boast that they love fair play, and Mr. Lea has not had fair play. Placed in a position of extraordinary difficulty, for which there seems to be no distinct provision in the Queen's regulations, this young officer did what he conscientiously believed to be his duty. By so doing it is not unlikely that he may have averted a terrible catastrophe. If he did wrong at all, the very height and front of his offending was an error of judgment which might fairly be imputed, not to an insubordinate temper, but to his anxiety about the welfare of his patient and the safety of the crew of which he was in medical charge. The Admiralty would be well advised, for their own sake, to reinstate Mr. Lea, for it is certain that if they do not do so the whole discreditable business will be exposed in Parliament.

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 OBITUARY.

We regret to have to record the death of Mr. A. T. Collum, M.B., F.R.C.S., Assistant-Surgeon to Charing Cross Hospital, which occurred on Wednesday afternoon at this hospital after a brief illness from an obscure form of septicæmia. He was a young surgeon of brilliant promise, being not only an admirable operator, but very successful and popular as a teacher.

TIMOTHY E. POMEROY, M.A., M.D.—Dr. T. E. Pomeroy, of Tweed, county of Hastings, died twelve hours after an attack of apoplexy, January 5, 1896, at the age of 70. He received his degree of M.D. from Castleton Medical College in 1860, and that of M.A. from the American University of Philadelphia in 1868. He practised medicine in the village of Tweed for about thirty years, and was highly successful, financially and otherwise. He was for many years surgeon to the 4th Battalion, Hastings Militia.

ALBERT EDWARD YELLAND, M.D., M.C.—Dr. Yelland was a clever and promising young physician of Peterborough. He graduated in 1887 in Trinity University, after having completed his course of four years in Trinity Medical College. He was attacked by severe pain, due to appendicitis, on Friday, February 21. Dr. Jas. F. W. Ross, of Toronto, on receipt of a telegram on Friday, went to Peterborough, Saturday evening, and operated during the night.



He seemed somewhat better for a time, but a change for the worse took place on Monday, after which he sank rapidly, and died early on Wednesday morning, February 26, aged 31.

HERBERT JAMES SAUNDERS, M.D., M.R.C.S. ENG.—We have no words to express our regrets concerning the untimely death of Dr. Herbert Saunders, of Kingston, which occurred February 19, 1896, after an illness of nearly seven weeks. He first contracted septic pharyngitis and laryngitis, with which was associated œdema of the larynx. He suffered greatly for two or three days, after which a marked improvement of his condition occurred. His friends hoped that all danger was passed; but, unfortunately, pneumonia developed. At this stage Dr. J. E. Graham, of Toronto, was called to consult with his medical advisers. For a time only one lung was involved, but the other one was soon invaded, and all hope was gone.

Dr. Saunders was born in London, England, in 1847, but came to Canada when a lad with his father, who was a Church of England clergyman. He attended Queen's College, and graduated in medicine in 1869. He then went to England, and got his M.R.C.S. in 1870. He practised for a time in Deseronto, and then in Montreal. After remaining a short time in the latter city he returned to Kingston, where he entered into partnership with Dr. Yates. He was Professor of Medical Jurisprudence in Queen's for about ten years, but last year was appointed Professor of Clinical Medicine. He was decidedly one of the best sort—an honest man, a cultured gentleman, a very able, practical, and scientific physician. This country possesses few such men. In fact, his type is not common in any country. His death means a sad loss for Kingston, a sad loss for Canada. What does it mean for his widow and eight children who survive?

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LAUGHLIN MCFARLANE, M.D.—When I first met Laughlin McFarlane, about thirty years ago, he was a student in the Toronto School of Medicine. Among his most intimate associates were J. H. Newton (deceased), Friend Eccles, of London, and George Wright (deceased). They frequently had "grinds," and I (then an arts student) happened to be present at some of them. I cared but little for the exhibitions of medical lore, but I enjoyed greatly the free and easy talks which ensued after they had *knocked out* anatomy and physiology. McFarlane was one of the best students in the school, and he, Eccles, Sparks, Palmer, Harbottle, and Newton were the medallists in the graduating class of 1867. Dr. McFarlane had left his father's house when a lad of thirteen, and for some time was engaged as a clerk in a store in the township of Caledon, where his relatives lived. He, at the same time, pursued a course of studies with a view of preparing for teaching. When eighteen years of age he took charge of a public school in Caledon, and conducted it with success for a number of years. He saved more than enough, while teaching, to carry him through his course in medicine. While he had charge of his school he was continuously reading, and when he decided to study medicine he had sufficient knowledge to fulfil the requirements for matriculation in all the subjects excepting Latin. He came to Toronto six weeks before the examination for matriculation in the University of Toronto took place, and studied Latin with a blind

old man of St. John's Ward (I forget his name) as his tutor. After this short preparation he went to the examination with considerable fear and trembling ; but, to his surprise, passed with good standing. His career, as a student, was somewhat uneventful. He was studious and well liked by his fellow-students. After graduating he had a few hundred dollars left, and decided to settle in Toronto. There was nothing startling about his success in his early career as a physician. In his first six months he made in cash exactly five dollars. In the summer of 1869 practice was quiet with him and his friend George Wright ; and the two decided to take a course in the military school which then existed in Toronto. The principal inducement was the bonus of fifty dollars given to each successful graduate. Their uniform—a scarlet serge tunic (I think that was the name of the unsightly smock or jacket), blue serge trousers, and a little cap—was not specially becoming ; but showed their figures, which were somewhat similar, fairly well. Their success was not at all brilliant, but they managed to submit to the bullying of the sergeant-major as they passed through the “goose step” and other stages of their course with perspirations and groans, and finally graduated in eleven weeks. Their martial ardor was somewhat limited at the time of graduating, and I never heard of them indulging in any military pursuits afterwards.

In 1871 I had a conversation with Dr. McFarlane in his office. He had just gone over his books, and found that his practice was worth something like nine hundred dollars a year. That was to him a large sum at that time. He bought a horse and carriage, and was a proud man when he commenced to drive his not very fiery steed in his daily rounds. That horse, however—and he was not very much of a horse either—appeared to bring him luck. His fierce struggle was over—practice increased rapidly—and he soon had all the work he could possibly attend to. He became, almost suddenly, one of the most busy practitioners in Toronto. A fair idea of the enormous practice which he did may be obtained from the fact that he sometimes attended more than three hundred obstetrical cases in a year. In the year 1869 he was appointed one of the demonstrators of anatomy in the Toronto School of Medicine. He was appointed a member of the visiting staff of the Toronto General Hospital in 1881, and very soon came into prominence as a clinical teacher of surgery. When the Medical Faculty of the University of Toronto was re-established in 1887, he was appointed professor of clinical surgery in that institution, and held that position until the time of his death. He was a member of the Senate of the University of Toronto for about twenty-three years. He was honored in many other ways by his brethren in the profession. He at various times occupied the position of president of local medical societies, and, in 1894, was president of the Ontario Medical Association. His conduct in the chair at that meeting was able, judicious, and impartial.

The career of Dr. McFarlane furnishes a striking example of the possibilities for success which are open to any poor but worthy boy. He fought the world, single-handed, for many years with heroic courage, and swept aside all obstacles that were thrown in his way. A friendless youth from rugged and hilly Caledon came to Toronto, acquired his profession, attained signal success, and received the highest honors which are open to medical practitioners.



Generally speaking, he was a man of peace, but he did not shrink from war if opponents endeavored to injure him, or oppose his methods. He always had the courage of his convictions, and feared no man. When forced into anything like a contest he always supported his friends in a loyal way, and never used any but the most straightforward methods in hitting his opponents. In private practice he always exhibited singularly good judgment. He had faith in therapeutics, but was inclined to be conservative. He gained the confidence and love of his patients. He never boasted of his kindness to the worthy poor, but those who knew him best can testify to the many charitable acts which he performed in the most unostentatious manner. The inner side of Dr. McFarlane was singularly good; and that his intimate friends well knew. In social life, poor, dear "old Mack," as he was frequently called, was genial, overflowing with fun, and, at the same time, kindly and sympathetic. How much we will miss him none can tell. We can scarcely realize yet that he is gone. Of his lonely, childless widow I will say nothing, excepting that in the midst of the appalling circumstances connected with the great disaster of her life she had a very lively appreciation of the kindness shown by friends to her dying husband, and a very deep feeling of gratitude for the numerous and graceful tributes to his memory which have flowed in like a mighty river since his death.

He was fifty-six years, and had generally been healthy. In 1891 he received a compound fracture of his leg in New York on his return from an extended trip in Europe. There was considerable delay in union, and he was always lame, to some extent, afterwards. In 1892 he had a severe attack of la grippe, from which he never entirely recovered. Since that time he suffered during the winter months from occasional attacks of pains in his extremities, which he always called his "grippe pains." These were sometimes so severe during the past winter that he seriously contemplated spending the latter half of it in a warmer climate. His last illness (the particulars of which are given elsewhere) caused a profound sensation in Toronto. He himself and those in attendance appreciated the gravity of the case from the first appearance of symptoms, and a strong fight was made against the enemy. The contest, however, was a short one, and the enemy prevailed. His death brought out very prominently the fact that his friends were not confined to any class or school. The outside profession, the "school men," and the students of Trinity and Toronto alike, all united in honoring his memory. The great kindness and consideration of Trinity faculty and Trinity students were especially pleasing to those who loved McFarlane—including the students and members of his own faculty. In accordance with a general request, the remains were on view for a greater portion of the day on which the funeral took place. There was a constant stream of people passing in front of the house. I watched the procession for a long time with great interest, until I could bear no more of it. Old men and old women who could scarcely climb the steps—young men and young women—boys and girls—all sorts and conditions—came, not from idle curiosity, but evidently to say their last silent good-by. The tear of one, the sob of another, the sigh of another, the evident heartfelt grief of one and all, showed that each one felt that he or she had lost a good friend. As I gazed on that sorrowful crowd, most of whom were unknown to me, I wondered what



he had done to make so many tears flow. I do not know. I am afraid none of us has any adequate conception of how much good that hot-headed, hard-headed, big-hearted Canadian Scotchman did in the fair city of Toronto.

A.H.W.

#### HISTORY OF DR. M'FARLANE'S ILLNESS.

On Friday, February 21, at 3 p.m., Dr. McFarlane was operating on a patient in the Toronto General Hospital. The case was one of gangrene of the toes from frost-bite, and amputation of certain of the toes was performed. Whilst inserting the sutures, Dr. McFarlane ran a needle into the palmar aspect of the terminal phalanx of his left index finger with considerable force, the needle reaching the bone. He washed his finger carefully in carbolic lotion.

There was no pain or uneasiness in the finger until the following morning (Saturday, February 22). The pain in the early morning was considerable, and he also complained of severe pain in the limbs; he took a dose of morphia, and subsequently went about as usual visiting his patients. He returned home at midday, and then complained of increased pain in the finger; this grew more severe, and early in the afternoon he was suffering greatly. He now complained of pain throughout the body generally, but particularly in the lower extremities and in the back; at 3 p.m. he was suffering agony, the pain in the limbs far exceeding that in the injured finger; gr.  $\frac{3}{8}$  morphia was administered hypodermically. The temperature at this time was normal. Under cocaine the palmar aspect of the index finger, which was slightly swollen, was incised with four parallel incisions down to the bone; there was scarcely any bleeding from the cuts; there appeared to be almost complete stasis of the circulation. The hand and forearm presented no swelling, but tenderness was noted on the extensor aspect as high as the middle of the forearm. The arm was placed in a carbolic bath (1-50). The pain in the limbs returned at night, and gr.  $\frac{3}{8}$  morphia was administered at 10.45 p.m. The temperature at midnight was  $103^{\circ}$ ; pulse 114. The bath was kept warm, and iodine was used alternately with the carbolic acid.

In the morning (Sunday, February 23), the index finger was black and gangrenous up to the second joint; the back of the hand was somewhat swollen, and was very tender to the touch. Under cocaine some five or six parallel incisions were made in this region; some large veins bled freely, but the tissues presented a choked condition on section, having a gelatinous appearance. He had some slight tenderness over the back of the forearm and a little tenderness over the inner side of the arm, about three inches above the elbow-joint; this latter was attributed to the pressure of the arm upon the edge of the bath. His general condition excited alarm; his temperature at noon was  $102^{\circ}$ , pulse 115. His complexion was somewhat dusky, and he appeared a little flighty at times when conversing with one. Towards evening, however, he seemed decidedly better. The temperature at 8 p.m. was  $100\frac{2}{3}^{\circ}$ , and pulse 109. He had been troubled somewhat during the day with nausea.

On Monday, February 24, the tenderness had increased considerably on the back of the forearm. Ether was administered, and some twelve or fifteen incisions, each from  $1\frac{1}{2}$  to 2 inches in length, were made over the back of the forearm; the incisions were carried down to the deep fascia; the same choked,

gelatinous condition of the tissues was found. A portion of this tissue was removed for the purpose of a bacteriological examination ; cultures were made, and were found to consist of streptococcus pyogenes and staphylococcus pyogenes albus. Improvement again followed operation, and the temperature at 1.40 p.m. was  $98\frac{1}{5}^{\circ}$  ; the pulse, however, was 104. Nausea, continued more or less all day, despite all efforts made to control it.

Tuesday, February 25. The tender spot on the inner side of the arm above the elbow was found to be hard and brawny. Ether was administered, and several parallel incisions were made into this ; the tissues presented the same gelatinous appearance. The nausea, from which he had been free for some hours previous to the operation, returned after the administration of the ether. Towards midnight hiccough began, and became troublesome. Morphia was administered and he fell asleep, but the hiccough continued during sleep nearly all night long.

Wednesday, February 26. At 7.20 a.m., the temperature was  $103\frac{1}{5}^{\circ}$  ; pulse 116. The hiccough ceased about 9 o'clock, and during the remainder of the day he was almost entirely free from it. He expressed himself as feeling better, and his attendants thought his condition decidedly improved. In the evening his temperature was  $102^{\circ}$ , pulse 116. Towards midnight, however, the hiccough returned ; he was delirious at times, and became restless. He had a dusky complexion, and his pulse was 120, very compressible ; respiration 24. The hiccough kept up all night long.

Thursday, February 27. The hiccough was very distressing for the greater part of the day ; pulse very weak ; he perspired very freely. Towards evening he was quite delirious, but he could be roused when spoken to, and would answer questions rationally. The wounds have shown no reaction whatever since incision. To-day, however, there was an angry red edge about each incision, presenting a very unhealthy appearance ; there was no indication whatever of suppuration. Throughout there had been no recognizable affection of the lymphatic glands. The hiccough continued almost constantly.

Friday, February 28. The pulse this morning was very weak, and was 140 per minute ; the hiccough was most distressing and constant. At midday *m200* of Edson's aseptolin were injected, with no appreciable effect. He had taken nourishment fairly well throughout his illness, and the bowels had been kept fully active by the administration of purgatives. Towards night the pulse increased in frequency, running as high as 152, and was very weak ; the hands and feet became cold. He was delirious, and was continually muttering and talking in an incoherent manner. Towards midnight he became very restless ; he could be roused, however, when spoken to, and recognized his friends. Morphia was administered, and he then became quiet ; the hiccough was not so constant. He gradually became weaker, the respirations became irregular, and he died on Saturday morning, February 29, at 6.20 a.m.







Fig. 1.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### ROENTGEN SKIAGRAPHY.\*

By EDMUND E. KING, M.D. TOR., L.R.C.P. LOND.,

Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables;  
Pathologist, Toronto General Hospital.

WHEN the announcement of Herr Doctor Roentgen's wonderful discovery was made in December last, a new scientific epoch was begun. His first communication was made to the Wurzburg Physical and Medical Society, in a paper entitled "A New Kind of Rays." He had taken time to settle many important questions, and was sure of his ground before making any public announcement. He *first* took his professional colleagues into his confidence, and did not rush into the public press as many of his predecessors in *great* discoveries had done—he fully satisfied himself that he had a discovery before making it known. Its importance was too great to be long retained by the savants of Wurzburg, however,

\* Read before the Toronto Clinical Society.

and within a few days the whole world knew that a hitherto unknown scientist had made a discovery that will revolutionize many ideas scientific. Ever since that time the press, both public and scientific, has been replete with the wonders of the unknown rays. For some time the discovery was looked upon as something too unreal to be seriously thought of; but as the full details became known, and as other investigators began to report their confirmation of the experiments announced, the incredulous had to abandon their position and admit that there really was something new under the sun. To-day all doubts have vanished, and all are pushing forward to increase the applicability of the new ray.

To us, as medical men, it has opened up a great field by perfecting our ability of diagnosis in obscure bone lesions, in the locating of foreign bodies in the limbs, a possibility of making certain of the presence of kidney calculi, in joint lesions, and many other conditions that I cannot mention. We must not expect too much, or we are bound to be disappointed.

The result obtained by the "X" ray is not a sharply defined photograph, but is a shadow picture—a skiagraph. We all know that shadows are more clearly defined by the nearness with which the object is placed to the screen on which the shadow is projected. More or less space must intervene between the object and the photographic plate in all of these cases, and that must be at the expense of sharpness of definition. Time of exposure is, at present, a very serious drawback to the use of these rays in medical diagnosis, but this is being materially reduced from day to day. The tube becomes heated so rapidly with the current from a coil giving a sufficient spark to produce good results that a much longer time of rest is required before the current can be again turned on. The tube used to produce the results here presented was heated in ten seconds to such an extent that it required twenty seconds to cool. The time of keeping the part under exposure is really, therefore, three times that of the actual exposure, but this will be overcome by some form of water jacket surrounding the tube, made of celluloid or aluminium. It would be easily done now if a glass cone could be utilized, but it cannot, as the rays will not pass through glass. Edison has announced a celluloid cup, but the results are not yet known.

The method adopted by the workers at the School of Practical Science here of using a bell jar has not proved as useful in medical subjects as it did for other objects, the refraction of the rays dimming the outline of the part. I have found that by surrounding the upper part of the tube with a funnel-shaped piece of tea lead the rays can be concentrated without the dimming effect on the border line.

Though the results attained by these rays are familiar to everyone, the





Fig. 2.



means used are possibly not so well known. An article by Prof. H. Schubert, in *The Monist*, deals very nicely with the previous history of this new physical agent :

In the year 1789 the electric current was discovered by Galvani, of Bologna ; but it was not until several years later that its most important properties, at least as distinguished from frictional electricity, were disclosed by Volta. Although galvanic batteries, as a means of producing electric currents, were studied and perfected in the next few decades, three great discoveries had yet to be made in the province of electricity before the new agent could attain the importance in civilized life which it to-day occupies, and before theoretical physics could investigate more closely its nature and character. These three discoveries were as follows :

(1) In 1820 Oerstedt, of Copenhagen, discovered that an electric current flowing round a magnetic needle deflects the same, and that a magnetic needle rendered insusceptible to the influences of terrestrial magnetism, and free to rotate in any direction, will place itself at right angles to the plane of an electric current surrounding it.

(2) In 1825, Arago, of Paris, discovered that a piece of soft iron, about which a wire connected with a battery has been wound in spirals, is transformed into a magnet and continues in the magnetic condition as long as the circuit remains closed, but is again unmagnetized when the circuit is broken.

(3) In 1831, Faraday, of London, discovered the so-called "induced currents" of electricity. If, he reasoned, the current was a source of magnetizing action, as Arago had discovered, it was possible conversely that a magnet should be the source of a current-producing action. But Faraday found no confirmation of his conjecture. Twenty years later it could have been decided *à priori*, without experiment, that a magnet *at rest* could not give rise to a current. For that would have violated the law of the conservation of energy, agreeably to which work can be done only provided a like quantity of work has been previously expended in some way. Yet Faraday discovered the law, harmonizing perfectly with the principle of the conservation of energy, that if a magnet be *approached* to a closed spiral circuit it will evoke in the circuit a sudden current lasting only for the moment of approach, but that when the magnet is *drawn away* from the spiral a current in the opposite direction to the first will be momentarily set up therein. Instead of a magnet, a closed circuit carrying a current may be approached and removed, or, instead of the latter, the current in the circuit may be made alternately to appear and disappear, or its strength may be alternately increased and diminished.

Currents thus produced are called "currents of induction," and apparatus designed to generate induced currents, rapidly alternating in direc-



tion, by means of common currents, are called "induction-coils." An induction-coil consists (1) of a soft iron core, (2) of a primary wire spiral or helix enveloping the same and receiving an ordinary electric current, and (3) of a secondary wire spiral of thin wire and many turns, enveloping the first. The current sent through the primary spiral magnetizes the iron core (compare the first discovery). The magnetized core then attracts a little iron hammer which is placed before it and regulated by a spring. This movement of the hammer breaks the metallic connection with the primary spiral so that the current is interrupted and the iron core again unmagnetized. The hammer immediately jumps back from the iron core, the current is again set going, and the action described is repeated anew. By this apparatus, thus, we are enabled to make the current in the primary spiral repeatedly and alternately appear and disappear. According to Faraday's laws, now, every appearance of the main current in the primary coil must produce in the secondary coil an induced or "closing current," as it is called, flowing in the opposite direction, and lasting but for a moment; whilst conversely every disappearance of the current must evoke an induced current flowing in the same direction with the main current, and called the "opening current." Thus are produced in the secondary spiral in quick succession currents which flow in alternately opposite directions. These induced currents are of brief duration, but of enormous tension. Their powerful physiological action on the human body is familiar to every reader.

It is to these induction currents, discovered by Faraday in 1831, that we owe all the recent magnificent development of electro-technics. For not only is the art of telephoning based upon induction effects, but the performances of large dynamos, or machines designed to produce, by mechanical work, electrical currents of great intensity and high tension are primarily rendered possible by induction effects.

So much for the induction current which is produced from the Ruhmkorff coil. The coil must be agitated by an electric current, and the voltage must not be too high; twelve volts, passing through a Ruhmkorff coil, will produce a voltage of, possibly, 100,000, but of very high potential. This current, on passing through tubes that are exhausted to a greater or less extent, produces phenomena characteristic to the degree of exhaustion. The tubes that were first exhausted, and on which experiments were conducted, were made by Geissler, of Bonn, and named after him. The degree of exhaustion was about 1-400 of an atmosphere. In the two ends of these tubes are soldered platinum terminals called electrodes. On connecting these electrodes with an induction current the enclosed gas, through which the current must pass, is set in a vivid state of incandescence. The point at which the current enters is the positive, or *anode*,



Fig. 3.





and the other the negative, or *cathode*. A bright, narrow fringe is observed at the cathode, and, subsequently, a relatively dark-bluish light, the *glow-light*, or *cathode-light*; whilst at the anode, as also in the largest part of the space intervening between the two electrodes, striæ of bright and reddish-yellow light are distinctly visible.

Hittorf, in 1869, carried the degree of rarefaction in these tubes to a more minute degree of density, and substituted platinum plate in place of the platinum wire electrode. The bluish glow-light of the cathode spread, in this greater rarefaction, until it nearly filled the tube.

Crookes carried the rarefaction still further up to one-millionth of an atmosphere, and these tubes are called Crookes tubes, and from these the "X" rays of Roentgen are produced.

It, therefore, gives me a great deal of pleasure in presenting to you, to-night, some negatives I have succeeded in making by these "X" rays.

We all must appreciate very highly the work done at Toronto University and the School of Practical Science in the early part of the year; yet none of it had any particular bearing on the application of the discovery to medical or surgical investigation. They reduced the time of exposure, and demonstrated the reflection of the rays, etc., which are of great aid in our present investigations; yet the negatives are the first produced in Ontario of medical subjects. Delay has been caused by an entire absence of Crookes tubes suitable for skiagraphic purposes. During this interval I got my battery constructed, and secured a Ruhmkorff coil capable of producing a spark six inches long. As soon as the tubes arrived from Germany I was ready for work.

A patient with a foreign body in the limb not being at hand to be skiagraphed, I resorted to the next best expedient, and that was of skiagraphing foreign bodies through the hand and arm. As you will see by the skiagraph of the hand (Fig. 1), that it shows a needle under the middle finger—the needle was placed under the finger and nearer to the photographic plate—while under the proximal end of the first phalanx of the index finger I placed a piece of glass, and a much smaller particle at the inner side of the proximal end and radial side of the terminal phalanx of the little finger; under the knuckle joint of the second finger a piece of lead was placed. All of these objects show with great distinctness, and most of them through bone. It appears that these foreign objects present a very much greater obstruction to the "X" rays than the bone, which is to an extent penetrable, as seen by the shadow shown of the thicker and thinner portions of the phalanges and metacarpals. The needle under the wrist (Fig. 2) shows the same result through a much thicker portion of the anatomy than the hand. The sharpness with which these objects are shown is due to their being closer to the plate. If they were embedded

in the flesh they would show well enough, but not as sharply, the distance from the plate allowing some light to pass below them. The attention will have to be much more closely drawn to the next skiagraph (Fig. 3), as the foreign object here is one that is within the tissues, and is a source of annoyance. It is situated at the ulnar side of the distal end of the first phalanx of the middle finger. It is a mere speck, and if you overlook it I will not be surprised ; at any rate I cut down on the part to-day and removed a minute speck of metal. The bone was also roughened at the situation. The history of the case is that some ten months ago, the young lady thinks, a part of a needle broke off in her finger. She consulted her doctor, and says a piece of needle was removed, but does not think all came away. The skiagraph showed this spot, and at the operation I found a speck of steel. I shall hope for a recovery from the pain and inflammation which was causing her great annoyance.

Fig. 4 is a reproduction of the first negative that I made, and the letters CANADIAN PRACTITIONER are roughly cut out of tea lead, and one can see how clearly defined they are ; the thickness of the lead is about that of ordinary notepaper. They were arranged on the box above the hand, as they should be if a photograph was to be taken—the negative appearing as a reversal. It was not until the photographic plate was developed that I appreciated that this work differed from ordinary photographic work by being a direct shadow.

I reproduce it just as the result was attained.

I have also succeeded in making a skiagraph of a three months' foetus, which clearly defines the centre of ossification, and shows how clearly at this age the bone restrains the rays, while the cartilage allows them to pass freely ; also one of a wrist on which an excision has been performed, which has given a remarkably clear outline of the wrist joint.

I hope that by our next meeting I will be able to present some further examples of the usefulness of this process in locating foreign bodies, as several subjects are now awaiting to be skiagraphed.

61 QUEEN STREET EAST.



Fig. 4.





## THE EPILEPSIES OF THE INSANE.\*

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THE generic term Epilepsy has been indiscriminately applied to the manifestation of various nervous phenomena of a certain type. An epileptic seizure may, in its mildest form, consist simply of a partial or a complete lapse of consciousness. The onset is very sudden, and the mental hiatus may be of short duration, or may extend over a considerable period of time. Accompanying the loss of consciousness there may be, in the severer forms of epilepsy, a convulsion of the entire muscular system. Following the paroxysms, which merge rapidly from the tonic to the clonic form, there is a period of profound coma.

This train of phenomena, subject to many unimportant modifications, constitute the external indications of an epileptic seizure. The fits may occur singly, at long intervals of many months, or the first fit may be followed promptly by others of a similar character. A number of these constitute a series. From ten to twenty often occur in a single day.

The mind may be clear in the interim between the attacks, or the patient may exhibit some form of insanity, usually mania, of a furious character, or melancholia. The form of insanity may not last from one fit or series of fits to the next, but may merely precede the attack by a few days, or follow it for a short length of time. Eventually the paroxysms have a tendency to produce dementia in patients who were at first perfectly sane between the fits. The convulsions are identical in both the sane and the insane. The presence of some form of insanity between the attacks is purely incidental, and does not in any way alter the character of the epileptic paroxysm.

These fits are merely the outward and superficial manifestation of an ulterior disease of which, as very little is known, so a great deal is conjectured. "Clinical epilepsy" may be artificially produced by irritation of the cortex of the cerebrum, and pathological conditions which cause irritation to the cortex, such as glioma, abscess and sclerosis of brain and cord, meningitis, tubercular or suppurative, syphilis, embolism, or thrombosis of the cerebral arteries and veins, are occasionally accompanied by epilep-

\*Read before the Toronto Medical Society.

tic seizures. When the epileptic seizures co-exist, however, with known pathological conditions, they can only be regarded in the light of incidental symptoms of the primary lesion, and the epileptic fits will correspond in question of time to the course of the primary disease.

Diseases of the nervous system have been separated into four great groups, *i. e.*, (*a*) organic, (*b*) structural, (*c*) nutritional, and (*d*) functional. In the first there is marked change of tissue, while in the second the change is less coarse, and can only be detected by a microscope. Nutritional diseases, such as paralytic dementia, are accompanied by very delicate modification of the nerve elements, while in functional disease of the nervous system no positive alteration of tissue has been observed at all.

As has been seen, the clinical characteristics of epilepsy may be produced by glioma, syphilis, and other forms of organic disease of the nerve tissues. In some structural diseases epileptic paroxysms occur, and they are also produced by some forms of nutritional disease.

But epilepsy is not always secondary to any ascertained form of pathological change. In the great majority of cases where no indications whatever of change in the nervous tissues can be found, nor any concurrent constitutional diseases to which the epileptic seizures may be reasonably attributed, the term idiopathic epilepsy has been applied. In other words, when the etiology of epilepsy is clearly understood, it is the usage to regard the epileptic seizure as a symptom; but when the etiology is not clearly understood, it is called a functional disease.

In idiopathic epilepsy the paroxysms make their appearance in the earlier years of life, as will be shown by the following statistics, drawn by Gower, from a large number of cases: Three-quarters of the cases begin under twenty; nearly a half occur between ten and twenty. One-eighth of the cases occur during the first three years of life. After twenty the percentage of cases falls. The maximum is at the fourteenth, fifteenth, and sixteenth year.

The pathological data of epilepsy are inconsiderable. To a certain extent, this is accounted for by the fact that epilepsy does not frequently end fatally, the life of the patient being brought to a termination by some intercurrent disease. Few opportunities are thus afforded for post-mortem examination at a time when such an examination would be most valuable for pathological investigation. Furthermore, as has been already stated, the brains of epileptics, even when occasion has been granted for their examination, have exhibited no striking pathological changes. Chaslin and Rilliet have vaguely described a form of sclerosis, but their investigations have not been extensive, and, even so, there does not appear to be much significance to the changes they claim to have observed.



There has been no such dearth in the clinical facts of the disease, and for centuries it has been described clinically with the various ornaments that imagination could devise or ambition suggest. The admirable state of confusion into which the literature upon any subject may be brought by diligent ignorance may be gathered from the fact that in a standard work upon psychiatry there occurs under the heading of epilepsy a sombre enumeration of sixty-five varieties, which for epic simplicity (not without grandeur) reminds one of the catalogue of Achæan ships.

Nevertheless, a careful analysis of even forty or fifty cases will illustrate the diversity of the clinical features ; and while an extended clinical report of half that number would be as irksome as crude masses of clinical detail, clumsily piled up without logic or scientific intuition usually are, a few notes upon a dozen typical cases will cast some light upon the subject, and by occasion afford data also for questions subsequently to be brought under consideration.

CASE 1. A child of nine. Father an epileptic. In the child the disease had first appeared a year before. The first fit, and such reports must always be received with a reservation, was said to have followed a fright. During the year the fits had become more frequent, and more severe in character. The child had a fit in my presence. Falling suddenly to his hands and knees, the muscles were drawn for a moment in a tonic spasm, followed by tremor and a jerking of the extremities when he rolled about on the floor. While in this position he bit at my leg and hand. Lifting him to his feet a moment afterwards the fit passed off, and he answered my questions rationally, but in a very slow, hesitating voice. He was unaware of the fit that had just passed, and did not remember having bitten at me. He seemed below the average in intelligence, and was cachectic physically.

CASE 2. A young man of twenty. He has had fits for some three years, but at long intervals. His manner is restless, and his speech excitable, indicating an entire lack of self-control. An impossible religiousness is his favorite affectation, but his conscientious scruples are inconsistent with the rest of his life. Led by one impulse, he suddenly amazed a group of strangers with the most puerile antics, and, carried away by another, he broke forth into a violent tirade against the nude in art, threatening to tear down a small picture upon which his chaste eyes were riveted, and which shocked and pained him. He is given to closing his eyes and moving his lips for a few moments, after which he will take the company into his confidence, and say that he had been engaged in silent prayer. He knelt by a fountain for half an hour and glared at a small fish. Said that the fish and himself were parts of God. As his fits occur

at night and this sort of religious drivel is thought just about the right thing by a great many sane people, it is possible that the impairment of his mental faculties will have advanced very far before his actions will cause serious comment. He has been through the Christian Science treatment, with no more marked result than an increase of piety and a prolonged and obstinate constipation. He has fed also on thyroid glands, and the "cerebrine" and "cardine" and "testine" of the sheep, until a sufficient air of sheepishness has been permanently produced. *Similia similibus curantur.*

These cases are both typical, the first being one of a class which, by reason of the early advent of the disease, and the increasing frequency of the paroxysms, often terminates in dementia without previous mental symptoms. In the second case, the mental symptoms, which are very marked, may merge in to outright mania or melancholia, as the primary disease itself progresses. But the dementia in the one case and the mania in the other can be regarded in no other light than secondary results in the career of a primary disease.

CASE 3. A man of forty. Robust constitution, and without mental peculiarities. Has from youth probably been subject to epileptic paroxysms, though for a number of years they occurred only at night, and were not suspected until the lacerations of the tongue and lips aroused suspicion. Weeks often pass without his having a fit. Then a number appear in close succession. For a week previous he is moody and silent. Some hours before the paroxysm he is conscious of a vague sensation passing upwards through the viscera. Immediately before the fit there is a second aura, when he is aware of an intensely disagreeable odor, which arises, he affirms, from a decayed tooth (he has no decayed teeth), and which, he insists, causes the fit. The advent is sudden; with a low shout, he falls prone upon the floor as if struck. He falls always in the same position, and so exactly, indeed, that he wounds himself repeatedly in identically the same place. A piece of sticking plaster applied to the right temple after one fit has, later in the day, been worn off in another fit. Upon falling to the ground, there is, first, a condition of tonic spasm of the entire muscular system. It lasts for some seconds. The pallor of the face gives way to lividity, as respiration is impeded by tonic spasm of the respiratory muscles. The pupils are dilated, and the eyes are turned upwards and to one side. The tonic spasm is greater upon the same side than on the other. Clonic spasm now intervening, the jerking of the head and extremities becomes more and more marked. The sphincters are sometimes relaxed. The tongue is often caught and bitten between the teeth, and a bloody foam is blown from the mouth. In a few seconds the clonic spasms also pass off, and he falls into a condition of coma, which passes away in an hour or more. Following these fits, there is



occasionally an attack of violent mania. I have seen him in a wild frenzy, raging from place to place, and breaking everything he could lay his hands on, and attacking everyone who approached him. When the mind is recovered to repose, he has no recollection whatever of either the fits or the frenzy which followed it.

CASE 4. A man of thirty, subject to epileptic seizures from childhood ; loquacious, and good-natured, and lazy. As in the preceding case, the paroxysms may not occur for days, when, after a short period of uneasiness, a number of fits appear in rapid succession. These fits present nothing unusual, being similar to one described above in detail. The mental condition after the fits is interesting.

(1) Sometimes he will remain for two or three days in a condition of stupor, from which he emerges gradually.

(2) Occasionally he falls into a state of blind fury, when he attacks the attendants with great ferocity, dashing the furniture about him, yelling and shrieking, and smashing the windows with a chair or with his hands.

(3) More rarely I have noticed a state of double consciousness analogous to somnambulism. A few months since, he made his way through the open country to a point more than a hundred miles distant where he had once camped for the summer. When discovered he had not the slightest recollection of how he had got there, the few preceding days being an entire blank.

CASE 5. A man of forty-five. Disease of long standing and intellect much obscured. After having three or four fits, he is rather uneasy for a couple of days, after which he becomes violently excited and runs, or rather leaps, continually from one end of the ward to the other, shrieking harshly. This continues sometimes for days. When in his bedroom he still continues his unearthly ululations. Upon being questioned as to the cause of his terror he explained that myriad spirits were constantly following him, and that they caught hold of him and tried to get into his brain. He is quite communicative upon these and kindred points, but to gather information it is necessary to run beside him as you question him, and the velocity of motion discomposes the mind of the scientific enquirer. To facilitate comfort of conversation, a learned New York physician has suggested following such patients on a bicycle, when a person not accustomed to sprinting can keep enough breath in his body to ask questions. I have not tried the New York method,

CASE 6. I have frequently seen the Duke of York, for so this man of forty-five styles himself, bend forward and grow rigid for a moment, after which his arms jerk spasmodically, as if in intense excitement. Upon these occasions he makes assaults upon divers persons. Having in one of these encounters broken one of the metacarpal bones by a blow of the



fist, he broke the same bone again within the month in a similar manner. He appears to retain no memory afterwards of these periods, and is, I feel assured, quite unconscious of what happens.

CASE 7. Has one or two very severe fits about once a year, when he grows violent with homicidal mania. In the interim he is demented, and inclined to be filthy in his habits.

CASE 8. A woman of about forty; mind clear between paroxysms. Each fit is ushered in with an aura of a psychical nature, consisting of a flood of memories relating to her girlhood.

CASE 9. A woman of about thirty. Is always aware of a coming fit by an aura commencing in the left hand. An "aura," like an imagination, is a special gift, enjoyed only by a few; though many receive every encouragement to have one.

CASE 10. Man, aged forty; was never known to have a fit before. A violent paroxysm came on while in bed. Consciousness never returned. The next evening there was another seizure; the spasm being so severe that some of the tendons of the knee broke with a loud snap. An hour later another fit occurred, bearing, like the two previous ones, a strong resemblance to epilepsy. He died a few minutes afterwards. Signs of recent cerebral hæmorrhage were discovered at the autopsy. There were no signs of organic or structural cerebral disease.

CASE 11. "Breathing out threatenings and slaughter, he journeyed near Damascus; and suddenly there shined round about him a light, and he fell to the earth, and heard a voice, and he trembled; and arose from the earth; and when his eyes were opened, he saw no man; but they led him by the hand; and he was there three days without sight, and neither did eat nor drink, and when he had received meat he was strengthened. Then was Saul certain days with the disciples which were at Damascus."

CASE 12. "And I see men become mad and demented from no manifest cause, and at the same time doing many things out of place; and I have known many persons in sleep groaning and crying out—some in a state of suffocation, some jumping and fleeing out of doors, and deprived of their reason until they awaken and afterwards become well and rational as before, although they are pale and weak; and this will happen not once, but frequently; and there are many and various things of the like kind *which it would be tedious to state particularly.*" (Hippocrates, "Sacred Disease.")

CASE 13. "Hence some have called it the sacred disease, as from the greatness of the evil, or because the cure of it is not human, but divine; or from the opinion that it proceeded from the entrance of a demon into the man. Such symptoms as accompany this disease in its acute form have been already detailed by me. If it become inveterate, the

patients are languid, spiritless, stupid, inhuman, unsociable, subject to many horrid dreams, of a leaden color, slow to learn, dull of hearing, and utterance indistinct and bewildered. The disease also sometimes disturbs the understanding so that the patient becomes altogether fatuous. The cause of these affections is coldness with humidity." (Aretæus of Cappadocia, "Chronic Diseases," Book I. chapter 4.)

Besides the cases described above there is also a rather rare form of paroxysm which affects one region only of the muscular system at a time, and without occasioning loss of consciousness. Somebody seems to have noticed this. It was a puzzling and unsatisfactory phenomenon. There was uneasiness for a time in the shrine of science, but Hughlings Jackson, by making an arbitrary division of the nervous system somewhat different from any other, was able to explain it, and thereupon comfort and repose was re-established in the shrine of science, and a writer in the "Dictionary of Psychological Medicine" insists that this sort of thing be called Jacksonian epilepsy—and it is.

The foregoing serve to illustrate how widely the clinical features of a given disorder may differ. I have not referred to the designations used often to express the different varieties. If a division be imperative, however, one might group the above, and indeed all cases, into mild and severe, or *petit mal* and *haut mal*.

In the milder forms the paroxysms are absent, or so slight as to pass unnoticed. In the severer forms the spasm of the muscles occurs immediately upon loss of consciousness.

Hippocrates naïvely declines to enter into a consideration of clinical details. Later writers upon epilepsy have not followed the example of the father of medicine, and it is only fair to Hippocrates that I should honestly confess that I have found their conscientious enumerations of details quite as tedious as Hippocrates said such details would be.

Clinical details are of no historic value in themselves, but only as they may serve as clues or steps for scientific reasoning. Hence the great mass of interesting gossip about "warnings," or "auræ," and kindred phenomena is not only tedious, as the Greek writer said, but, in great part, useless. Furthermore, a great deal that is reported is not reliable, for being merely medical gossip it has the weak points of lay gossip. In a search after facts to stand on, the student has to make his way through a prodigious mass of irrelevant detail to lay hold of some very scanty evidence.

It will be noted that both of the ancient writers speak of mental disturbance as a complication of the epilepsy. If symptoms of insanity follow phthisis and syphilis, there is surely nothing remarkable in the fact that insanity should be occasionally associated with epilepsy. The title

of this paper was therefore determined upon in much the same spirit as that which led a conscientious author to make his traditional chapter upon the snakes of Greenland.

A contemporary American writer upon insanity, besides grand and petit mal and convulsive movements without loss of consciousness, includes as "epileptiform affections" vertigo, double-consciousness hystero-epilepsy, procursive epilepsy, and laryngeal epilepsy. Certainly the accumulation of such clinical forms in families, and classes, and cohorts, as in botany, is a work of profound importance (and lucidity), and some few writers. enter into the work with almost as much enthusiasm as if they were collecting postage stamps.

The treatment of epilepsy has been empirical from the first. The inhalation of nitrate of amyl often relieves a severe paroxysm. The different salts of bromide control the seizures. The British Pharmacopœia has been diligently administered to the epileptic patient without adding any benefit to either the pharmacopœia or the patient. By far the best results have been obtained from a close attention to sanitary science. Institutions known as epileptic farms are being tried in various civilized countries. Outdoor air, sunlight, wholesome exercise, and simple food, without excitement, have proved the best form of treatment for the unfortunate community. There is no such institution that I know of in Canada.

Both the friends and the physician of the patient will labor in the dark until some clearer light is cast upon the true nature of the fundamental disease.

As I have said, the clinical data are so varied and so confused that it is difficult to reason upon them. Pathology, on the other hand, has discovered nothing of any practical value, and it seems to have been popularly taken for granted that, like perpetual motion, the discovery of the true nature of epilepsy was utterly beyond the reach of either luck or logic. Witness the helplessness confessed by such a writer as Theodore Kirchhoff :

"Concerning the anatomical basis of epilepsy and its associated mental disorders, we really know nothing positive. The most frequent cause is heredity, then follow alcoholic excesses, next come the cerebral diseases of early childhood. Another important cause is concussion of the brain and the allied form of psychical trauma, viz., fright."

Aretæus is quite as logical according to his lights, and ten times more assuring, and I have it not in my heart to say that "coldness and humidity" are not very great evils.

Sylvius is almost a modern writer, and in 1657 he divulged the "true cause" of epilepsy in the following words : "*Suspiciamur ergo et tantum non opinamur, veram et adæquatam epilepsiæ omnis causam esse spiritum*



*acidum volatile quacunq̃ue demum in parte generatum, coacervatumve, atque inde ad cerebrum delatum, spiritibus animalibus junctum, ipsos divellentem, impetuose commoventem, ac proinde a blando, continuo, ordinato, et voluntatis imperio subjecto motu ad interruptum, inordinatum, conturbatum, impetuosum et violentum deducentem."*

With the advantage of such charming predecessors one has a right to expect more of Kirchhoff and Landon, for beyond the banalities suggested by the feeblest common sense they have nothing to suggest, and as much may be said of twenty other more gifted writers. Pathology failing to make a direct discovery much may be gained indirectly by inference and analogy, basing our conclusions upon: (1) The more significant clinical details. (2) General physiology. (3) Statistics. (4) Results of special forms of treatment.

The clinical signs are of no value without an understanding of the physiological counterpart. To a certain degree the physiological functions of the nervous system are understood, and, though only imperfectly, this knowledge is of great value when studied in connection with the clinical signs.

As irritation of the motor centres of the cortex of the cerebrum, either in disease or when artificially produced, is followed by epileptic convulsions, the cortex of the cerebrum is accordingly referred to by many as the location of the disease, and fits, they say, are "explosions" of nerve force. This is not, it seems to me, a warrantable deduction, for though it is possible that all the external indications of an epileptic fit may trace their origin to the motor centres in the cortex (the irritation of these centres being so severe as to cause unconsciousness in the higher centres of cerebration), it would be quite possible for many diseased conditions to cause from time to time a violent irritation in the cortex without being seated within it.

The fact that no pathological change can be constantly detected in the brains of those who are long subject to epilepsy does not point, by any manner of means, to the airy, transcendental condition of things, without form or color, which produce very substantial results of a form and color too decided to escape notice. Rather, this suggests that the present methods of pathology are altogether too one-sided. Microscopy is only a branch of pathology, and a preliminary one at that; but the pathologist is prone to regard his favorite maker's instrument as the open sesame into the entire realms of the unknown. This is mere puerility. The study of biological evolution and of physiological chemistry are as much a part of pathology as a magnifying glass and a paint-box of colors. Above and beyond all this, it is possible that a more lucid method of applying facts and reasoning upon them, for the purpose of reaching conclusions useful to science,

might be invented. Aristotle and Bacon would surely not resent a deviation from their formularies if found convenient in a special branch of research. What is now very necessary is improved machinery of logical inference—and sundry brains to make the most of that machinery.

The end of science is not to pick up everything in sight and stow it away. Yet this seems to be the popular method of the day, and many text-books recently written have the dazzling incongruity of a general museum—profoundly respectable, learnedly classified, but inclined, nevertheless, to be rather miscellaneous.

The statistics show that epilepsy is (presumably) a disease of development, and this is borne out by other facts. It seems to belong to the degenerations.

If the bromine salts act merely by benumbing the nerve centres, their efficacy in controlling epilepsy would point to the disease as being essentially one of irritation. This does not altogether follow. I should be inclined to think that the disease, being of the nature of an obscure degeneration, was essentially due to the inability of deteriorated tissues\* to resist the action of agencies which lacked the power to irritate in a similar manner tissues perfectly sound.

The epileptic, born without the ability to resist the stress of certain conditions, advances through life till he first meets that stress. That stress may relate to the performance of a function, or may be allied to a toxic agent.

In the quality of toxicity two quantities are to be considered: the toxic quantity, so called, and the quantity upon which it has a toxic effect. The issue will depend upon the toxic intensity of the one, and the power of resistance in the other. If there is no power of resistance in the second quantity, there is great danger of overestimating the toxic properties of the first quantity. If the power of resistance is very great, there is danger of underestimating it. In health the power of resistance is very great; indeed, health means resistance. In disease the resistance is at a minimum.

The degenerate reaches a certain stage where the stress of physiological life is greater than the power of resistance. There is a temporary loss of equilibrium, accompanied by certain external signs, or perhaps none. Idiosyncrasy, accident, and a thousand chances, go to determine the exact nature of the external signs. The balance of the system is shortly regained, only again to be lost. On the other hand, the toxic agent or the physiological stress may be constant, and the power of resistance instead subject to repeated fluctuations, with accompanying arrest of function, the waves of which disturbance are clinically visible at the periphery.

The salts of bromine act either as a sedative or stimulant, since

they allay the irritation or tone and arouse the defective tissues, but how these salts act it cannot be said with assurance, for physiological chemistry is very imperfectly understood, and when it is better understood it may be found that these salts neutralize some irritating agent (or agent which degenerate tissues have not the power to resist) secreted in the physiological laboratory, or form a compound with some substance in the organism which neutralizes the irritating agents.

Finally, the great benefit derived from living a purely animal life, as opposed to the strain of an artificial life, points to but one conclusion ; for the organism, however hampered by degeneration, will do much, if the chance be given, to repair and rebuild the most serious ravages (as la grippe), and so long as it is impossible to retain a perfect state of equilibrium between physiological stress and physiological resistance there will be repeated interregna in the psychological continuity of the patient, or periods of functional chaos, from which, as the nervous system gradually regains strength (or possibly as the cause itself relaxes), the higher centres will slowly arise, dazed and uncertain, as from a prolonged period of physiological anarchy.



## A CASE OF CHOLECYSTDUODENOSTOMY FOR LITHIASIS, WITH THE AID OF THE MURPHY BUTTON.\*

By FREDERICK WINNETT, M.D., M.R.C.S. ENG.,

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MRS. S., aged 39 years, the mother of four children, had suffered for fifteen months from cholelithiasis, with marked reflex disturbances of digestion, but no jaundice. There was tenderness over the gall bladder, but no enlargement.

The diagnosis was calculus in the cystic duct.

Treatment with olive oil, salicylate of soda or arsenic, gave no relief.

In March an aggravation of her symptoms confined her to bed, and from the hopelessness of her case surgical interference was deemed advisable.

March 29, 1895, assisted by Dr. Sweetnam, Dr. Elliott administering ether, I made an incision in the upper part of the right linea semilunaris. The omentum and the duodenum presented at the wound, the gall bladder was naturally distended, and could readily be brought in apposition with the duodenum. On examination, a gallstone the size of a hazel-nut was felt in the cystic duct, and could not be dislodged. Murphy's intestinal compression forceps were found unsatisfactory, as they repeatedly slipped off and allowed the contents to pass. A large flat sponge was placed in front of the kidney. A running thread was placed in the duodenum, and another in the gall bladder. Half of button was now inserted into the bowel, and the remaining part into the gall bladder. Owing to the thickness of the latter, stretching was difficult, and the usual incision—two-thirds the diameter of the button—required to be extended. When the button was in place, this was drawn together with a suture, and made to include the running thread. Considerable pressure was used in bringing the button together, while the centres were avoided. All was cleaned, and silkworm-gut sutures were inserted, but before tying the patient coughed, and bile was seen to well up at the wound. On examining the

\* Case presented to the Toronto Medical Society, April 2, 1896.

button, bile and gas were seen to escape between its parts at each expiration. Great pressure was now used, and the button clicked twice. The escape ceased. It was thoroughly cleansed, and a drainage tube inserted into the depression above the kidney.

March 30. Dressing changed ; was soaked with sanious fluid.

March 31. Dressing changed ; tympanitis was causing distress and intermittent pulse ; the rectal tube passed in the genu-pectoral position gave relief.

April 1. Tube removed and stitch tightened.

April 4, p.m. Temperature (first rise),  $100^{\circ}.2$  ; pulse, 88.

April 5, p.m. Temperature,  $100^{\circ}.1$  ; pulse, 100.

April 6, p.m. Temperature,  $99^{\circ}.2$  ; pulse, 80 ; dressing changed and sutures removed ; serum seen at point of drainage.

April 7, p.m. Temperature,  $99^{\circ}.6$  ; pulse, 90.

April 8, p.m. Temperature,  $100^{\circ}.4$  ; pulse, 104. Dressing changed ; some pus in wound.

April 10. Dressing changed.

April 11. Calculus passed per anum.

May 1. Wound healed.

The button probably passed towards the end of the third week, but was overlooked by the nurse.

April, 1896. Completely restored to health ; scar healthy.

In November, 1895, Murphy reported fifty-one cases of this operation for cholelithiasis, with two deaths. One died from hæmorrhage from the liver as a result of separating adhesions, and the other resulted from septic peritonitis, due to the escape of the septic contents of the gall bladder.

As happens in other branches of surgery, so here, no doubt, a much greater proportion of the successful cases find their way into literature than of the failures.

A more reliable method would be to take the entire number operated upon by individual surgeons, or all those occurring in hospitals. It would then vary according to the surgeon's familiarity with the technique of the operation, as well as to his selection of cases.

The results are most brilliant, and a great advance upon all former methods which had a mortality of 35 per cent.

Its indications, as given by Murphy, are :

(1) Permanent obstruction of cystic duct or marked reflex disturbances.

(2) Obstruction of common duct.

(3) Septic cholecystitis.

(4) Fistula of gall bladder, if patient is becoming emaciated.

(5) To drain gall bladder of accumulations.

(6) In perforations of choledochus.

Contraindicated:

(1) Gall bladder too small for button.

(2) Adhesions prevent bowel and bladder coming together without kinking.

(3) Obliteration of cystic duct.

(4) Enormously enlarged gall bladder. Then, if choledochus is free, do a cholecystectomy; and, if blocked, amputate a part and use the button.

Such conditions may necessitate one of the following procedures:

(a) Incisions and drainage *in situ*, or button tube drainage. Required on account of gangrene or adhesions.

(b) Cholecystectomy. Mortality 17 per cent.

Indicated:

(1) Hydrops and empyema of gall bladder if cystic duct is occluded.

(2) In severe chronic recurrent cholelithiasis vesicularis.

(3) In severe diseases of bladder, as ulceration, gangrene, contraction, and carcinoma.

(4) Rupture of gall bladder when suture is difficult.

Contraindicated:

(1) Strong adhesions.

(2) In permanent closure of choledochus.

(c) Choledocholithotomy. Mortality, 40 per cent.

Indications:

(1) Large stone in duct, with fever and chills.

(2) When stone is in the choledochus, if cysticus is obliterated.

(3) If stone has perforated. If not healthy, then remove and do a cholecystenterostomy.

Several other operations formerly in vogue are now seldom resorted to.

(1) Cholecystostomy. In two sittings, mortality 10 per cent.; in one sitting, mortality 19 per cent.

(2) Cholecystotomy. Mortality, 25 per cent.

(3) Cholecystendysis. Mortality, 23 per cent.

(4) Choledocholithotripsy. Mortality very high, but Teale reports three cases of needling of calculus in choledochus, with one death.



## Selected Articles.

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### THE MEDICAL PROFESSION IN SOUTH AFRICA.

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BY H. LAING GORDON, M.D. EDIN.

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**M**EDICAL men have been intimately associated with the growth of South Africa. The earliest settlement at the Cape of Good Hope was made on hygienic and dietetic grounds, possibly by medical advice. Scurvy had caused much suffering on the ships going to the Indies, and carried off many lives. Both the Dutch and English East India Companies were made aware of the advantage and saving of life likely to result by having a station where their men might have a run ashore and obtain fresh provisions in the course of the long voyage. The little station founded in 1652 by the Dutch company was meant only for this purpose. Its first commander was Jan Van Riebeeck, formerly a ship's surgeon. The most recently founded settlement in South Africa has for five years also had a medical man at its head. In 1890 L. S. Jameson, M.R.C.S. (Eng.), L.S.A. (London), and M.D. (Univ. Lond.), was appointed Administrator of Mashonaland, and subsequently of the whole district now popularly known as Rhodesia. Between these two makers of history the medical profession has been playing a steady, if unostentatious, part in the development of the country.

At a time when many inquiries are being made by medical men contemplating emigration to South Africa, it may be well for one who has had some experience in the country to give some practical information on the subject of the profession and medical practice there. My remarks will be concerning Cape Colony chiefly.

It may be said without exaggeration that the profession rests on a good foundation in Cape Colony. This may possibly be due to the fact that the Government has received from time to time much valuable assistance in questions seriously affecting the public health, and has granted a reward. At the present time there are several able practitioners in the Colonial Legislative Assembly, and one has been recently admitted to the Cabinet.

The Colonial Medical Council, sitting at Cape Town, consists of seven

practitioners—three nominated by the Governor and four elected by the profession—and one dentist. The duties of the Council are set forth in the Medical and Pharmacy Act of 1891. They are briefly as follows: The admitting of properly qualified persons to practise as medical men, dentists, midwives, or trained nurses, and the removal from the register of those who have been proved to the Council's and the Governor's satisfaction to have been guilty of infamous or disgraceful conduct in *any professional or other respect*. The fee for registration as a medical practitioner is £5, as a dentist £2 10s. An annual license of £5 has to be taken out for leave to dispense. The Council appoints examiners to examine such nurses and midwives as present themselves without recognized qualifications, and on their recommendation grants certificates of competence which admit the holders to the register. There is no fee for registration as nurse or midwife. A section of the Act provides for the punishment of persons falsely using professional titles, or implying that they are licensed, or registered, or qualified, and of persons practising without a license. By the strict enforcement of this section the Council has protected the profession from the doings of quacks and others who seem to find a happy hunting ground in the South African Republic. Until quite recently the Council acted as adviser to the Government in public health matters; it is doubtless relieved of this duty by the Public Health Department now formed. A much-needed Act providing for the registration of births, and deaths, and stillbirths came into force for the first time last year. There is an institution devoted to Bacteriology at Grahamstown, attached to the Government agricultural department; it manufactures and distributes vaccine virus, which, however, has scarcely given universal satisfaction.

The chief medical appointments in Cape Colony are:

(1) *Resident Medical Officerships* in hospitals and asylums. These are usually given to men of standing and experience, in whose hands the whole practice of the institution generally lies. They do not engage in private practice. The salaries vary from £250 to £600 a year, with quarters and rations.

(2) *District Surgeoncies*, under Government. There are upwards of one hundred of these. The usual salary is £75 with allowances, but it is larger in districts where there is little or no private practice to be had. The District Surgeon's chief duty is a daily visit to the local jail.

(3) *Railway Surgeoncies*. These are filled up by the Government railway department. The surgeons are remarkably well paid and are supplied with drugs. They make weekly visits over the portion of the line allotted to them, in a special carriage attached to a goods train. They engage in private practice also.

There is always keen competition for all these appointments, and it

cannot be said that professional worth is the only consideration which guides those who make them. As a rule, men of colonial birth naturally have the preference.

Medical practice in the larger towns greatly resembles that in an ordinary provincial town in England. Fees are perhaps somewhat higher, but so is the cost of living. There is the usual competition, and there are few, if any, towns which present any attractive opening to would-be emigrants, unless possessed of considerable capital and patience. "Specialism" does not flourish. There are one or two eye specialists, but no others; although there are some who successfully devote a large portion of their time to some special subject, for example, gynæcology. There is no town large enough or with a sufficiently populous surrounding district to support specialism.

The bulk of the colonial profession is engaged in country practice, living in townships or villages, mere hamlets, or sometimes upon a farm. The inhabitants of the small townships are: a magistrate—the Government representative—a lawyer or two, the ministers of several denominations headed by the Dutch Reformed, the storekeepers and the various tradesmen who depend upon the custom of the Boers (farmers). In the colony as a whole and in most districts the inhabitants of Dutch origin outnumber those of English origin, and this is also true of the Orange Free State and South African Republic. Cape Dutch, a patois which is fairly easily picked up, is the language commonly spoken. In many districts English is very seldom heard, but near the large towns the Boers are better able and more willing to speak it. The English farmers come into the village only when occasion demands; the Boers come once a quarter in large numbers to attend *Nachtdaal* (Communion) at their church; they bring their whole family on these occasions and occupy the houses which each possesses in the village, and which are shut up for the rest of the year. When serious illness occurs on a farm, medicine is first of all sent for; if this proves inefficacious the doctor is fetched, often in the Boer's own Cape cart. Long journeys may thus have to be performed, varying from one to six, eight, or more hours the one way. Six miles are reckoned to the hour, and the usual remuneration is £1 per hour of actual travelling. The roads are far from good. When possible, patients are brought into the town houses. Where the distance is very great and the patient is too ill to be brought to the township, the circumstances naturally prevent frequent medical visits. It is astonishing, however, how cases recover under circumstances which would in England be regarded as certain to lead to a fatal result. Even for such diseases as typhoid and rheumatic fever, mutton mealies, pumpkins, coffee and Cape brandy are at some seasons the only articles of diet available on many remote farms.



Some up-country villages have reputations as resorts for European consumptives, and this adds to the practice considerably. The Boers are what are known as "good payers," although they expect and receive quite twelve months' credit. It is a great advantage to hold the District Surgeoncy; many doctors come and go in up-country villages, and are run after for the time owing to reports that they are "fresh from Europe with all the new drugs and instruments," but the District Surgeon generally goes steadily on. The Boer dearly loves his medicine, and likes it strong.

Both town and country practices are to be purchased, but as a rule it is not wise to give more than a small sum for either. A young Englishman, ignorant of the language, stands little chance against an Afrikaner doctor, who may take advantage of the chance to set up in opposition. The number of villages with only one medical man grows less almost daily, and the days of making large fortunes by the practise of medicine in Cape Colony are practically over. In the Orange Free State and Transvaal, however, there are still districts where lucrative practices may be stepped into or made, but such openings are being rapidly filled up by Afrikaner youths who have come home to qualify. In Mashonaland and Matabeleland there is no population to support any more than the holders of appointments. The medical emigrant to South Africa should possess a fair amount of capital, and be prepared for an isolated and monotonous country life. There are few assistantships to be had; a newcomer would do best to take a locum tenency for a man who wishes to run home for a few months; in this way he learns the language and the ways of the people. "Practices for sale" and "locum tenens wanted" are advertised in the *Cape Times* *Cape Argus*, and other papers, or are placed in the hands of one of the firms of wholesale druggists. A few letters of introduction are useful, but it must be remembered that every man of position and influence receives scores from all sorts and conditions of people in the course of a year.

The total white population of Cape Colony at the last census was 376,812. The number of names on the medical register for 1894 was about 530. The colored population totals 1,148,927, but these cannot be included in estimating the proportion of medical men to the population. The register shows that 242 hold Scottish, 159 English, 54 Irish, and 67 foreign or American qualifications; the remainder are unqualified men in practice before the Medical Act came into force. The majority of the Afrikaner students are educated at Edinburgh. Whether or not there is any of the much-talked-of racial hatred of the English by the Dutch in Cape Colony is not for me to say here, but it is acknowledged that they prefer Scotsmen. The resemblance of the Dutch Reformed religion—the prevailing form in South Africa—to the Scottish Presbyterian is offered as an explanation of this fact.

The *South African Medical Journal*, published monthly at Cape Town, is the only organ of the profession in South Africa. It does not receive the support it deserves from the country practitioners. It carries on a crusade against the advertising nuisance. There are one or two peculiar forms of advertising in the country. It is usual to see the ordinary announcement of a death in the public press followed by a paragraph of thanks to the medical man who attended the deceased. Operations performed on local worthies are often chronicled in country papers with an accuracy in detail which betrays the source of the information. The arrival of a new practitioner to a town or village is often the subject of a news paragraph in which his qualifications, experience, and the number of certificates, etc., he obtained as a student are set out. In the Transvaal advertising and quackery go practically unchallenged. The *Medical Journal* (June, 1895) says: "In a new country where men, things, and convictions shift about with unexpected rapidity, perhaps the ethical rules of our profession will bear slackening in some directions. Not, however, in this matter (advertising), if we wish to retain a foothold for mutual respect and mutual assistance." Probably the South African Medical Association now in course of formation will devote some practical attention to the advertising question.

The amount of disease met with in the country is apt to astonish one who has read the many misleading statements about the "health-giving climate of the Cape." Typhoid and typho-malarial fever, diphtheria, rheumatic fever, and dysentery are met with in all parts, even in the high altitudes, where pneumonia, bronchitis, and asthma are almost as common as at the coast. Leprosy also occurs; the lepers are segregated on Robben Island, situated in Table Bay. Syphilis prevails to an alarming extent amongst the colored population; it is said that the Hottentots look on it as such a necessary evil that they inoculate children born without evidence of the disease. A mild form of malarial fever is met with in many parts of the Colony; in Mashonaland and Matabeleland it is also more prevalent and more severe. Smallpox has occurred from time to time in terrible epidemics; the earliest was in 1713, when it was introduced by means of some infected clothing sent ashore from a ship to be washed. Outbreaks are continually occurring, chiefly in Kaffirland; it is, as a rule, introduced from the Transvaal. Vaccination is not enforced as strictly as it might be, although at the first alarm of an outbreak the colored people flock voluntarily in hundreds to the public vaccinator (District Surgeon). One outbreak came under my own observation; it arose from a native who spent a night in a small Kaffir location on a farm on his way from the Transvaal to Kaffirland. The infected persons were removed to huts situated about six hundred yards from the others on the open veld, and about a mile from

any other habitation. Members of the Cape mounted police force posted round in tents kept watch night and day over the whole location, and supplied food to the affected and quarantined. When the outbreak was over the quarantined built new huts for those who had recovered, to which the latter were transferred after proper disinfection. The infected huts, together with all the clothing and utensils used during the illness, were then set fire to and speedily completely consumed. Under such favorable circumstances it is comparatively easy to stamp out an outbreak.

South Africa is well off for mineral springs. The best known are at Caledon, about eighty miles from Cape Town—hot chalybeate ( $100^{\circ}$  to  $112^{\circ}$ ); at Aliwal North—hot sulphur ( $95^{\circ}$ ); and near Robertson—also hot sulphur ( $100^{\circ}$  to  $110^{\circ}$ ). There are other less known springs at more than a score of places. In the Transvaal the Waterberg district has valuable springs. These mineral springs are one of the resources of the country, which have been neglected owing to reasons it is unnecessary to enter into here. At none of these places is there suitable provision for the systematic use of the waters, nor any adequate accommodation for patients. Rough experience has proved that some of the waters—notably those of Caledon—might be highly beneficial if applied systematically in various complaints.

It is unnecessary to do more than mention the fact that certain parts of South Africa are well adapted, as far as climate goes, for the treatment of persons predisposed to pulmonary tuberculosis, or afflicted with very early phthisis, but otherwise in good health. A sanatorium for phthisical persons is reported as about to be erected at Kimberley; it is far from being a suitable site for such an institution.

To the often asked direct question, "Is there any opening for a medical man in South Africa?" it may fairly be answered, "Yes, for a suitable man." Before emigrating it is most important for every man to first ascertain all he possibly can concerning the country he is going to and the people he is going amongst, and then to put himself honestly the serious question, "Am I a suitable person?"—*The Medical Magazine*.



## SOME CONSIDERATIONS WITH REGARD TO COUGH.

BY ROBERT H. BABCOCK, A.M., M.D.,

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THE aim of this paper is simply to call attention to some rather interesting peculiarities and conditions concerned in the symptom of cough, and to illustrate that this may often be found depending upon some condition remote from primary disease of the respiratory tract. It is well to bear in mind that the reflex sensibility of the air-passages is not the same throughout. Chronic congestion and mechanical irritation, as from mucus, if situated in the pharynx or about the epiglottis, will often occasion frequent and violent paroxysms of cough, deceiving both patient and practitioner into the belief in a most serious pulmonary affection.

CASE 1. Mrs. W——, between twenty-five and thirty years of age, consulted me with regard to the state of her lungs. She gave a history of chronic and obstinate cough for the previous five or six years, but with little or no expectoration. She had been treated by a number of physicians for pulmonary consumption, and had taken inhalations of some kind for many months, with great improvement to her general health and weight and lessening of her cough. I found her well nourished and presenting no special indications of anæmia. Careful examination of the chest disclosed a perfectly normal pair of lungs. There was absolutely nothing either in pulse or temperature to indicate a suspicion of pulmonary tuberculosis. Indeed, I was so sure that the seat of irritation was in the upper respiratory tract that she was referred to a specialist in nose and throat diseases, who reported the discovery of a lingual tonsil. This body, by its irritation of the epiglottis, was undoubtedly the cause of her obstinate symptom, as shown by the result of treatment, for upon this being applied to the lingual tonsil her cough disappeared. Here was a case in which the patient was not only put to years of needless worry and expense, but whose cough had not the remotest connection with pulmonary disease.

CASE 2. Mrs. D.—, aged forty-three, consulted me in the summer of 1886 because of a distressing dry cough. I had seen her in consultation about a year previous, when she was suffering from cardiac palpitations ;

I had not been able to determine organic lesion of the heart, but concluded that the palpitations were of reflex origin, as the lady was a sufferer from chronic cystitis and indigestion. Upon her consulting me for the cough, therefore, I not only carefully examined the lungs, but directed my attention also to the heart, and, to my astonishment, discovered well-marked signs of mitral stenosis. As the lungs were healthy, the cough was attributed to chronic pulmonary congestion secondary to the valvular lesion. Treatment addressed to improvement of the circulation entirely relieved her symptoms.

CASE 3. C.E——, male, age fifty-three, physician, was seen in consultation because of a persistent dry cough. He had passed through a pleuro-pneumonia a couple of months before, and the existence of pleuritic adhesions at the left base was easily determined. In addition, however, he had a moderate dilatation of the left ventricle, probably secondary to a chronic interstitial nephritis shown by urine analysis, as well as to moderate arterio-sclerosis. It was questionable, therefore, whether the cough was due to irritation from the pleuritic adhesions or to chronic bronchial hyperæmia consequent upon the cardiac asthenia. The latter was thought the more probable, and the result of treatment bore out this conclusion. With the improvement of the heart's action from infusion of digitalis, the cough entirely disappeared, as did the dyspnœa.

Anyone who has observed many cases of heart disease must have been struck by the fact that passive pulmonary congestion is not always associated with cough. I have records of cases of mitral disease in which stasis within the pulmonic system could not have failed to be marked, and yet cough was almost never complained of. I can only explain the striking contrast between such cases and the two narrated above as due either to individual differences in reflex excitability of the nervous system or to preponderating congestion of the large bronchi in the cases of cough, the bronchioles bearing the brunt of the stasis in those without cough. Such a hypothesis is not altogether at variance with anatomical facts. According to our present knowledge of the anatomy of the lungs, there is a two-fold connection between the bronchial and pulmonary blood vessels. There is an anastomosis between the pulmonary capillaries and those of the smaller bronchi, that is, bronchioles of a diameter of less than one-twenty-fifth of an inch. Furthermore, according to Zuckerkandl, some of the veins originating in the walls of the larger bronchi communicate with the pulmonary veins. As neither pulmonary nor bronchial veins are provided with valves, backward pressure from the former into the latter is unhindered; congestion of the bronchial mucosa results, leading to bronchial catarrh. Sensory filaments are supplied to the entire bronchial tree from the vagus through its connections with the sympathetic. It is by

means of these sensory fibres that irritation of the pulmonary tissue produces cough. Yet statements on the part of physiologists as to the sensibility of the lower portion of the bronchial system are rather indefinite; clinical observation of instances of catarrh of the small bronchi with but little if any cough would seem to indicate, therefore, that this symptom is most troublesome when dependent upon congestion and catarrh of the larger air tubes.

The next case illustrates the production in still another manner of cough in instances of mitral disease.

CASE 4. A. D.—, aged twelve, was under treatment for uncompensated mitral regurgitation. Treatment had improved his condition, but he was still kept in the recumbent position on account of the cardiac feebleness. Frequent severe cough now came on, with but scanty mucous expectoration; no fever and no substernal pain. The cough was attributed to increase of the already existing bronchial congestion; but examination of the chest disclosed slight dullness and numerous fine râles in the left infraclavicular region and extending posteriorly to below the middle of the scapula. Impaired resonance over this area, particularly in front, had been recognized upon my first assuming charge of the case, and had persisted even when there was no cough. Here, then, was a conjunction of symptoms and signs very suspicious and rather puzzling at first. Dullness and râles at the apex, together with cough, were suggestive of pulmonary tuberculosis; but the breath sounds were puerile rather than bronchial, and there was absolutely no fever. Indeed, the absence of febrile temperature excluded the idea that this was an acute inflammatory or tubercular process. Nevertheless, why were physical signs unilateral? This was the query. And the answer to this query necessitated the hypothesis of some other condition than pulmonary congestion. The process was non-inflammatory and not chronic, since only impairment of resonance had previously existed, the râles being of recent development. Obviously the solution lay in the suggestion of a mechanical cause; the one mechanical factor conceivable was pressure—pressure upon the upper lobe by the greatly distended left auricle. Had the auricle pressed upon and occasioned partial stenosis of the left main bronchus, then the physical signs should have involved the entire left lung. Acting on the hypothesis of pressure and consequent retention of bronchial secretions, the patient was ordered to assume a partially erect position. The result proved the correctness of the assumption. Cough and râles gradually disappeared, the percussion note growing more resonant *pari passu* with the improvement in the heart and the lessening of its dilatation. The patient subsequently got up and about and was free from cough, although an appreciable difference in the resonance of the two infraclavicular regions still existed. . . .



A rather extended experience with the symptomatology of thoracic disease has taught me that cough bears no definite relation to the gravity of the primary affection. I have seen so serious a disease as a large aortic aneurism pressing upon the left main bronchus and producing tracheal tugging accompanied with an insignificant amount of cough ; whereas some of the most obstinate cases of cough I have ever treated have been in persons with arterio sclerosis in whom repeated examination of throat and chest failed to show changes commensurate with the symptom complained of. In some instances it has been so much relieved by a brisk purge as to suggest its dependence on venous (bronchial) congestion or a toxæmia of intestinal origin.

The cough of consumptives is so variable in respect to frequency, severity, and extent of lung involved, that when particularly distressing and intractable it suggests the probability of laryngeal complication or irritation of the bronchial mucosa from tubercular ulceration or the passage over it of septic sputa. In some instances the frequency of the cough is largely a matter of habit ; that is, the patient yields to his desire to cough upon slight provocation without any attempt to check it. Accordingly, it is well to tell patients that they must as far as possible restrain their inclination to cough.

In conclusion, I desire to bear testimony to the value of codeine salts in the management of this symptom in some cases.

Although the first principle of correct treatment is the removal of the cause where possible, there are cases in which this cannot be done, notably in heart disease and pulmonary tuberculosis. In such, if the cough be allowed to go on unchecked, it may not only exhaust the patient, but often aggravate the existing malady. Under such circumstances, it is advisable to administer a sedative, and nothing has yielded such satisfactory results in my hands as phosphate of codeine in half-grain or grain doses by the mouth. In administering any form of sedative to quiet cough, one should remember that this means the deadening of the patient's sensibility to the presence of secretions in the air tubes, as well as the sensibility of his respiratory centre. Therefore, in case of extensive bronchitis of the small tubes, the obtunding of the patient's sensibility may permit a dangerous accumulation of bronchial mucus ; the bronchioles may become so much occluded as to greatly interfere with oxygenation of the blood. In feeble patients with hypostatic congestion, the administration of a sedative often requires great caution and judgment. In the last stages of consumption the patients are often robbed of sleep and exhausted by the frequency of their cough. In such cases codeine is by far the best remedy at our command ; yet in its employment one should remember that the fever and other symptoms of sepsis may be intensified by the retention of the sputa.

Codeine is preferable to morphine or crude opium, because it rarely disturbs appetite or digestion, and is generally free from their unpleasant after-effects. The phosphate of codeine is preferable to the sulphate, because containing a larger percentage of the base, besides being readily soluble and suitable for hypodermic administration. In cases of la grippe with frequent paroxysmal cough, I have employed Wyeth's hypodermic tablets of codeine phosphate and been greatly pleased with this mode of administration. Quite recently, in several cases in which dry spasmodic and prolonged cough called for a sedative and antispasmodic remedy, I have obtained quite brilliant results from bromoform combined with gelsemium, as follows.: Bromoform, 7.5 gm. ; tincture gelsemium, 8 gm. ; syrup of lactucarium, to make 65 gm. ; powdered gum arabic, a sufficient quantity. A teaspoonful three or four times a day was the dose prescribed. One female patient with pulmonary tuberculosis, who was unable to sleep because of harassing cough without expectoration, was instructed to take a teaspoonful of this prescription, and repeat in half an hour if necessary. The remedy did not prove very efficient, and, to my horror, the patient reported the next day that she had taken almost the entire quantity during the night, although apparently without injurious consequences. In another case, in which severe and almost incessant coughing due to acute bronchitis threatened to break down the heart, already greatly enfeebled from mitral and aortic disease, the prescription accomplished the very happiest results:

|                               |               |
|-------------------------------|---------------|
| R. Bromoform.....             | 7.5 gm.       |
| Codeine phosphate....         | 1.0           |
| Compound syrup of squill..... | 10.0          |
| Syrup of lactucarium....      | to make 130.0 |
| Powdered gum arabic.....      | q. s.         |

M. et. fiat emuls. Sig. : Two teaspoonfuls every two hours.

In the very early stage of an acute bronchitis with substernal soreness, squill is inadmissible, and the hive syrup of this formula had better be replaced by syrup of ipecac or a minute amount of tartar emetic.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### ANEURISM OF THE HEPATIC ARTERY.

Mester (*Zeitschrift für klin. Med.*, Bd. xxviii., p. 93) reports a case in which a man of forty-two years was kicked in the abdomen by a horse. This was followed by pain in the hypochondrium, intermittent icterus, vomiting of blood, and the passing of fresh or altered blood by the rectum. The diagnosis was ulcer of the duodenum. Laparotomy was performed, but without revealing the seat of the hæmorrhage. Nevertheless gastro-enterostomy was made. The patient died five days later. Autopsy showed a spurious aneurism of the right branch of the hepatic artery, in the liver tissues, and communicating with the right branch of the hepatic duct. An analysis of the nineteen cases previously reported is given, from which it appears that the diagnosis is never made during life, the condition being mistaken for ulcer of the duodenum or gallstone.—*American Journal of the Medical Sciences.*

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### THE DIAGNOSTIC VALUE OF THE COUNTING OF LEUCOCYTES IN URINE.

Reinecke (*Berliner klin. Wochenschrift*, 1896, No. 49) has made some investigations in this subject, with the result of adding greatly to the knowledge already available regarding it. An interesting feature of theoretical importance was the confirmation of Hottinger's discovery that leucocytes in pyuria often exceed in the course of a day the total number of leucocytes in the blood, thus casting doubt on the idea that pus-corpuscles are all derived from the leucocytes of the blood. The practical results of the



investigation are stated in the following conclusions: (1) Counting the pus cells in urine frequently, but not invariably, gives an exact measure of the excretion of pus. (2) Continued daily estimations give a picture of the clinical course, enable us to control the treatment, and give an interesting idea of the enormous number of cells lost by the body in severe pyuria. (3) In connection with albumin-estimations, the quantitative estimations of pus may, in some cases, assist in determining whether a pyuria is complicated by nephritis.—*American Journal of the Medical Sciences.*

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#### LANDRY'S PARALYSIS FOLLOWING INFLUENZA.

The following case is reported by Dr. Pailhas in a recent number of the *Archives de Neurologie*, and is of considerable interest because of its close resemblance to the toxic condition following another acute infectious disease, viz., diphtheria. The patient was a man aged twenty-three, who, towards the end of February, 1895, while serving in the army, experienced severe headache, especially in the occipital region, and cold feelings between the shoulders. His legs also became weak, and he had pain in the stomach and faintness. He was admitted in this state to the regimental infirmary. Three days later he experienced severe articular pains in the legs, which were ascribed to rheumatism, and there was at this time also a difficulty in articulation, the patient speaking slowly, pronouncing the syllables separately and pausing between the words. A fortnight after the onset of his illness the symptoms included great feebleness of the legs and of the body generally, inability to stand, and the articulatory difficulty alluded to above. The knee-jerks were completely lost; the heart was extremely feeble, only beating between 45 and 50 times in the minute, and the cardiac sounds were feeble, but otherwise natural. The hands were cold and cyanosed and the pupils dilated, but reacting to light. During the next two weeks there was slow but gradual improvement, but three weeks after the commencement of the illness it was noted that the leg muscles did not react to electrical stimulation. A week later the knee-jerk still remained absent, but the patient was able to walk, and the articulatory difficulty had almost disappeared. He was still feeble, and suffered occasionally with pains in the knees and shoulders. Three months later there was a recrudescence in a slight degree of the weakness in the legs and the pains in the joints, as well as a threatening of the articulatory difficulty, after exposure to cold. The symptoms, however, rapidly cleared up without attaining anything like the severity they had shown before; but it is to be remarked that the knee-jerks still remained in abeyance. As we have said, the case is particularly interesting on account of the fact that

the disability was evidently the result of a toxic process which is said to have followed influenza. Its resemblance in many points to post-diphtheritic paralysis is very striking, in none, perhaps, more than in the continued absence of the knee-jerks after all the other signs of disease had disappeared. It may be thought, with some degree of justice, that the evidence that the primary disease was influenza is not conclusive, but there can be little doubt that the resulting condition was a toxic one.

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#### CHILLS IN TYPHOID FEVER.

Chills may occur in connection with typhoid fever—first, at the onset of the disease, as seen in thirteen cases out of a total of seventy-nine treated at the Johns Hopkins Hospital during the sixth year. Second, at the onset of the relapse, due to an irregular or a disturbed elimination of the poison, a large volume of which is thrown into the blood in a short time. Third, as a result of treatment, antipyretics being particularly prone to produce chill, and this phenomenon may occur after the injection of sterile cultures of bacilli and after the external application of guaiacol. Fourth, with the onset of complications, such as pneumonia, pleurisy, acute otitis, suppuration in the mesenteric veins, pyæmic abscesses of the kidney, perforation of the ileum or appendix, or an acute periostitis. It may occur with thrombosis of the femoral or saphenous veins, and it may precede acute and fatal hyperpyrexia. Fifth, during convalescence in severe and protracted cases. In such cases there may be no local symptoms to account for the chills, and, though alarming, they may gradually subside, with complete recovery. They may possibly be septic. Sixth, chills may be due to concurrent malaria. While attributed, as a rule, to malaria, chills in the course of typhoid fever are very rarely due to this cause. Among three hundred and thirty-three cases of malaria and three hundred and eighty-nine cases of typhoid fever treated at the Johns Hopkins Hospital, in no instance have the diseases been concurrent.—*William Osler, M.D., of Baltimore, in University Medical Magazine, November, 1895.*

# SURGERY

IN CHARGE OF

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## THE OBJECTS AND LIMITS OF OPERATIONS FOR CANCER.

The above title has been chosen by Mr. Watson Cheyne for an interesting series constituting the Lettsomian lectures delivered recently before the Medical Society of London. The subject is of great importance, and is treated in a masterful manner by the author. The following is a brief abstract of the three lectures :

The last few years have seen marked alterations in the older methods of operating in these cases, and also the introduction of operations in regions and to an extent formerly not thought of. It is with a view of trying to estimate the value of the work done in this department that I have decided to discuss in these lectures the objects which we should aim at, and the limits to which we may go, in operating for cancerous diseases.

By cancer I mean carcinomata, the essential feature of which is continuous and excessive growth of epithelioma. Once this growth has commenced, nothing that we know of has any power to stop it. It invades the tissues, it spreads along the lymphatic vessels, or is carried by these vessels to the nearest lymphatic glands ; it passes from one lymphatic gland or one chain of lymphatic glands to another, till it ultimately reaches the main lymphatic trunks, through which it enters the blood stream, and is deposited in distant organs and parts of the body. Deposited in these distant organs, it again grows, and the same cycle of events follows, or would follow, were it not that the patient soon succumbs from general poisoning as the result of absorption of materials elaborated at the seat of the disease, from interference with the vital functions owing to the presence of the growth in important organs, from suppressed hæmorrhages due to erosion of blood vessels, and so on. Once this overgrowth of epithelioma has begun it goes on inexorably, unless we can arrest it, to the fatal end.



The primary object of operation in cancer is, of course, the prolongation of the patient's life and the alleviation of his local trouble, and what I propose to assert in these lectures is that these results are, in most cases, best attained by aiming, wherever it is possible, at the cure of the disease.

In discussing the curability of the disease I have already mentioned elsewhere evidence as regards cancer of the extremities, lips, and uterus, which shows that a real cure is obtainable in a very considerable proportion of cases, and in the following lectures I shall produce similar evidence as regards other parts. The first question to be kept before us in investigating a case of cancer is whether there is any possibility of curing the disease or not. Such a point of view makes a very great difference in the operation, for it is not then sufficient to remove only the noticeable disease, but it is necessary to take away as far as possible the parts in which disease may have become disseminated, although still unrecognizable—in other words, possibly infected lymphatic areas. Thus, if the skin is infected, a considerable portion around must be taken away, and this is the more necessary where the infection of the skin has come from beneath, as, for example, when cancer of the breast reaches the surface, for the dissemination in the cutaneous lymphatic plexus is often, under these circumstances, very rapid and extensive, and this is probably due, in part, to the larger size of the deep cutaneous plexus, which will, in the latter case, be first involved. Again, where muscle is infected, the cancer cells are very rapidly and early driven along the lymphatic vessels of the muscle, and, even though there may only be one visible nodule in the muscle, the whole, or the greater part of it, must be looked on as suspicious, and must be removed if there is to be anything like certainty in attaining the object of the operation, namely, the patient's cure. Again, as regards the lymphatic glands, we know from a very early period they become affected, and that, of course, without any visible enlargement in the first instance, and, in addition to this infection of the glands without enlargement, plugs of cancer cells very often stick in the lymphatic vessels on their way to the glands. Hence it is necessary in all cases where the disease has lasted any length of time, or extended at all deeply, not only to remove the primary mass freely, but also to take away the whole lymphatic area up to and including the nearest lymphatic glands. Thus the operation performed with the object of curing the disease becomes a much more extensive one, and, consequently, much more serious than that which simply aims at getting rid of the main trouble for a time, and prolonging the patient's life.

The first question to be considered, then, with regard to a case of cancer, is the anatomical one, namely, whether it is anatomically possible to remove all the local disease and the probably infected lymphatic area so thoroughly as to give a fair chance of non-recurrence. If it is anatomi-

cally possible, the next questions are, What are the chances of death as the result of the operation? and, What will be the subsequent functional result? In considering these questions we must remember that we are dealing with an otherwise incurable disease, one which is comparatively rapidly fatal, and one which in certain regions—for example, the throat—is often the cause of very extreme suffering before death supervenes; and, therefore, even though the risks are very great, unless the result of the operation is certainly fatal, the question of operation ought to be presented to the patient if there is a reasonable chance of removing the disease. I do not think the patient should be refused operation unless the disease cannot be removed, unless early recurrence is very highly probable, or unless operation means almost certain death, or yields a hopeless functional result. Of course, if one has something better to substitute for the radical operation, such as colotomy in extensive rectal cancer, the matter is quite different; but where this is not the case the patient should be told all the circumstances, and allowed to take his choice.

The primary object in these cases being, therefore, cure, the limits of the radical operation are where there is no reasonable prospect of removing the whole disease, or where, along with a very poor prospect of success, there is a very high mortality from the attempt. In such cases I do not think that operation should be mentioned at all, for even where the patient recovers from it, and has presumably two or three months added to his life, few would, I think, thank one for it, seeing that these two or three months have been spent in convalescing from a serious and, in the end, useless operation.

But even in cases where hope of cure or marked prolongation of life by a radical operation is out of the question, operation may sometimes be advisable with the object of removing symptoms which are immediately threatening life, such operations, for example, as tracheotomy, colotomy, etc., or, in the second place, with the object of taking away the primary disease from a part, such as the mouth or throat, where its continued development means intense pain and trouble, and thus by substituting for these troubles an easier death from exhaustion. A *sine qua non* of such operations must, however, be that they are reasonably free from immediate risk; and, with regard to the second class, that there is a prospect of attaining the object of the operation, namely, the entire removal of the disease from the part operated on. I do not think that a dangerous operation is allowable for simple relief of symptoms, however proper it may be if a cure may be hoped for.

There are thus two different objects to be held in view, and two different questions as regards operation which we must bear in mind in treating a case of cancer, namely, (1) Can we reasonably hope for a cure? for, if we

can, a serious or dangerous operation is permissible ; or (2), cure not being possible, can we decidedly ameliorate the patient's condition by operation such operation, however, not involving any great risk of life?

I have selected three regions for examination, namely, (1) the breast, (2) the throat, and (3) the intestinal tract, as these three regions illustrate very well all the points bearing on our subject.

#### CANCER OF THE BREAST.

As antiseptic surgery began to exercise its influence, and as it became evident that the extent of the operation did not increase the risk of septic disease, the tendency was towards more extensive operation, and in this, as in many other departments of surgery, for which he gets no credit, Sir Joseph Lister took the lead and began to extend the area of operation, especially in the way of more extensive and, finally, of more or less complete removal of the axillary contents and of the pectoral fascia. It was not, however, till the researches of Heidenhain, and subsequently of Stiles, Johnson, and others in this country, that we knew exactly how the disease extended, and, indeed, how extensive the mammary gland itself was. As the result of these researches we now know that by the older methods of operating, and, indeed, by any method which does not take proper cognizance of the facts which these recent researches have brought to light, the patient never really has a chance of cure, properly speaking, and the wonder is not that recurrence so constantly takes place, but that in any cases apparent cure follows.

Knowing the very early period at which the cancer cells get into the lymphatic vessel, an operation, to be at all complete, must include the primary disease, the lymphatic channels leading from it, and the whole mass of the nearest lymphatic glands. It does not, however, follow that when these glands are enlarged it is absolutely necessary to go beyond the first group, because, for a time at any rate, the disease seems to be held back at this point ; but, as I say, the minimum operation for cancer of the breast which will offer anything like a real chance for cure must take away everything up to and including the first chain of glands. Hence, in the case of the breast, we must remove the primary disease, the whole breast, the tissue in which the lymphatics run from the breast to the axilla, and the whole of the axillary glands. In this connection we must remember that recent researches have shown that the breast is a very much more exhaustive organ than was formerly supposed, and that by the old method of operating practically only the central part was taken away. Lobules of the breast run in the fat over the pectoral muscle nearly up to the clavicle, well into the axillary line, almost on to the sternum, and downwards on to the region of the abdominal muscles. In the deeper part, also, the lobules



of the breast are intimately connected with the pectoral fascia, and the removal of the breast without simultaneous, thorough removal of the pectoral fascia inevitably means that numerous lobules are left behind. Hence our skin incisions must be very much more free than formerly was the rule, and, for my own part, I always take away the skin co-extensive with the prominent part of the organ.

There is another reason for taking away this large amount of skin, namely, the existence of the suspensory ligaments of the breast, in which lymphatic vessels run from the region to the skin, and these are not at all infrequently infected with cancer cells. In addition to this portion absolutely taken away, the skin all around must be raised, leaving fat and lobules of the breast, as high as the clavicle, as far inwards as the middle line of the sternum, downwards on to the abdominal muscles, and outwards on to the latissimus dorsi; and one advantage of this free undermining of the skin is that, in the great majority of cases, one can subsequently bring the edges together by means of stitches. Where the tumor is situated towards one side of the breast, additional portions of skin must be taken away in a V-shaped manner, so that all the skin from the vicinity of the disease is removed. The skin flaps being held up, the pectoral muscle must be exposed at the upper part, and then, in order to ensure the removal of the fascia, a layer of the whole surface of the muscle must be taken away; and, when the lower and outer edge of the pectoral muscle is reached, the fascia over the serratus magnus, and the whole fatty tissue containing lymphatics, as far back as the edge of the latissimus dorsi, must be detached. In this way the primary disease, the breast, and the lymphatic vessels running in the fat and the pectoral fascia towards the axilla are separated, and then one proceeds to clear out the whole contents of the axilla, finally leaving the nerves and vessels thoroughly cleaned, as in an anatomical dissection. One first follows the fat and fascia running between the pectoralis major and minor on to the costo-coracoid membrane, and then I explore the axillary artery and skin at the lower part and tear open its sheath in its whole length; then, raising the pectoralis minor, I begin at the very apex of the axilla, right up under the clavicle, and, with a curved, blunt instrument (the one I find most useful is a periosteum detacher invented by Dr. Greville MacDonald for operations on the nasal septum) and the finger, detach the whole fat and included glands and lymphatic vessels, till everything except the important structures in the axilla has been got away. It is very important also that the whole tissue should be removed in one piece; in the first place, it is of great advantage, in clearing the axilla, to have the part dragged down by the weight of the breast; and, in the second place, it is very important not to cut through tissue which may be actually diseased, and which may lead to

subsequent infection of the wound. Had I time, I could bring forward evidence to show that recurrence may be due to this cause ; and, if it can possibly be avoided, a malignant tumor should not be cut into, and on no account should it be removed piecemeal, as is sometimes done in other parts of the body.

Where the skin is much tacked down over the tumor, although it may not be actually involved in the disease, the cutaneous lymphatic vessels and those running in the suspensory ligaments are apt to be affected over a wide area, and hence it is necessary, in such cases, to cut exceptionally wide of the disease. Where the tumor itself actually involves the skin, we know that the disease has almost certainly spread widely in the cutaneous lymphatic plexus, and, in such a case, one must not hesitate to remove the skin extremely freely, and to have a wound the edges of which it may not be possible to bring together. If such a wound is left, it can very readily be closed by skin-grafting, either at the time of the original operation, or, if the patient is too exhausted, about ten days or a fortnight afterwards.

Where the tumor is adherent to the pectoral fascia, as is very often the case, I think it advisable to take away the whole thickness of the muscle at that part, and as the lymph tends to be forced onwards in the direction of the muscular fibres the mass of muscle removed should be detached along its whole length, from its origin to its insertion. In operating in such cases, as I approach the neighborhood of the tumor, I usually sink my hand through the muscle, and then rapidly separate the part grasped from origin to insertion, and detach it at both ends ; and, as a matter of fact, in many of my cases I have done this, and have then removed a considerable part of the lower portion of the pectoral muscle. Halsted and others advise that the pectoral muscle, at any rate its sternal origin, should be taken away in every case, partly in order to get thoroughly rid of the pectoral fascia, and partly in order to be able to clear out the axilla more effectually. As will be evident in comparing my statistics with Halsted's, this is really not necessary unless there are actual nodules in the substance of the muscle ; more especially where the lower portion of the muscle is removed in the manner I have described, there is no difficulty whatever in pulling up the remains of the pectoral muscle sufficiently to obtain complete access to the upper part of the axilla. I am inclined to think that even in cases in which there are nodules in the muscular substance, it is often sufficient to take away the sternal origin of the muscle, and that the clavicular portion may be left unless there is actual disease present in it.

Where the glands in the axilla are markedly enlarged, the question arises as to how far one should go. In the first place, it is well to see

what one is doing ; and still, if the pectoral muscle is not affected at all, I prefer leaving it, and think it is well to divide it transversely, and after the operation stitch it up. The chief question which has to be considered is whether, having found the higher axillary glands enlarged, one ought not to go further and remove the glands from the posterior triangle of the neck. Some have, indeed, tried to make it a universal rule that if the auxiliary glands are at all enlarged, those in the posterior triangle must be taken away ; but, as I have already said, the first chain of glands opposes a barrier for a considerable time against the onward spread of the disease, and if only it is thoroughly removed I think one may, in most cases, be content. Where the cancer is a slow-growing one, and only the lower axillary glands are noticeably enlarged, I do not therefore open up the posterior triangle of the neck, and, so far as I can recall, I have only twice had recurrence in the supraclavicular glands. If, however, the highest axillary glands are noticeably affected, it stands to reason that the posterior triangle of the neck should be opened up. Unfortunately, however, the line of infection does not so much run into the posterior triangle as along the subclavian vein into the thorax, along a route that is imperfectly accessible, even when the posterior triangle is opened, and I have not seen much benefit in the way of finding and rooting out the disease as the result of opening up the posterior triangle.

The conditions under which amputation of the arm would be necessary are the presence of a large mass in the axilla involving the nerves, for involvement of the vein or artery, or even both, does not necessitate amputation. I have more than once removed portions of the axillary vein to which glands were firmly adherent, and in one case I removed both vein and artery without any loss of vitality or other trouble to the limb ; but where the disease is so diffuse as to involve the nerves, I think it may be taken as certain that it has extended beyond reach.

(To be continued in the next issue.)



# OBSTETRICS

IN CHARGE OF

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## VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA.

Ever since the publication in 1871 of the noteworthy paper of Fearn, in which he highly praised the administration of what we then considered heroic doses of veratrum viride in the treatment of puerperal eclampsia, the profession has been giving this method a larger trial each year, and the results of this increasing experience seem to endorse even the enthusiastic views of the originator of this method. As long as eight years ago the *Therapeutic Gazette* published in its editorial columns an article calling attention to the paper of Dr. Oatman, recommending doses equally large or larger than those of Dr. Fearn ; and more recently there has come to our hand, in the shape of a clinical contribution from the pen of Dr. Reamy, of Cincinnati, additional evidence of the good results obtained by this treatment. Further than this, we believe that many of the great obstetric teachers of the day recommend this method to their classes, while they equally strongly condemn the employment of pilocarpine for the production of a sweat. Thus, Hirst directs that veratrum viride should be given in the dose of fifteen drops of the fluid extract hypodermically for the purpose of reducing the pulse rate to 60, and, if this dose fails to do good, he advises that additional doses of five drops each shall be administered with sufficient frequency to obtain this circulatory result. Dr. Lusk and Dr. Parvin mention the treatment and state the advantages which are claimed for it, but the former expresses a dread of its depressing effects, while the latter, quoting the authorities who recommend it, fails to state his own personal opinion.

Among persons who are accustomed to obtain by five- or ten-drop doses of the tincture of veratrum viride marked circulatory sedation in the

early stages of acute inflammatory processes the massive doses which are recommended by obstetricians will seem unsafe, but a careful examination of the subject seems to prove that, in reality, the boundary line of danger is not passed when these doses are given. In the first place, there are a large number of cases on record in which poisoning has been produced by very much larger doses than any employed in obstetrics, with recovery as a result, and we all know that the number of casualties from the ingestion of this drug in any dose is very small.

The method by which veratrum viride is supposed to do good in cases of puerperal eclampsia is a double one. Chiefly from the action of its alkaloid, jervine, it powerfully depresses the circulation, and so bleeds the woman into her own vessels, relieving by this means congestion of the cerebral and spinal vessels, and reducing, in all probability, any spasm of the renal blood vessels which may be present, thereby causing marked increase in the flow of urine. In addition to this action, jervine also acts as a powerful sedative to the motor tracts of the spinal cord, and so directly quiets nervous excitation, while the copious sweating which often follows its administration aids in relieving the blood of impurities, the kidneys of congestion, and relaxes the peripheral blood vessels. In the experience of Dr. Reamy, the doses which were given with successful results by means of the hypodermic needle consisted of twenty drops of Norwood's tincture of veratrum viride, a preparation which, it is to be remembered, is a saturated tincture many times stronger than that which is official in the United States Pharmacopœia. Personally, we believe that Norwood's tincture ought never to be called for, as its sale in the drug store is apt to cause confusion with the official tincture, and because it is not of a definite strength. We believe that the official fluid extract, or normal liquid, of veratrum viride should always be chosen in the treatment of this condition. We trust that those of our readers who have had a large experience in this method of treatment will write to the *Gazette*, giving their fellow-subscribers the benefit thereof.—Editorial, *Therapeutic Gazette*.

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ON THE DANGER OF THE USE OF POLYPUS FORCEPS FOR THE REMOVAL  
OF RETAINED FRAGMENTS OF PLACENTA.

Dr. Alberti (*Centralblatt für Gynakologie*, 505, 1895) reported, at a meeting of the Gesellschaft für Geburtshilfe und Gynakologie at Berlin, a case of hæmorrhage after abortion, in which the attending physician, after curetting, introduced a forceps into the uterus to remove some remains of the placenta. On withdrawing the forceps he found that he had dragged part of the intestine into the vagina. Alberti performed a cœliotomy three hours later, and found the uterine wall thinned away in

every part. The intestine which had been dragged through the uterus into the vagina was constricted at the internal orifice, and could not be returned until this had been slit in several places. The woman made a good recovery.

In the discussion which followed, Veit, Olshausen, Gusserow, and Orthman reported cases almost identical which had occurred in their practice, not, as a rule, with the same good result. All agreed that the forceps was a most dangerous instrument. Martin mentioned a case in which a very busy practitioner, believing that, although he had used a curette, he still felt some membrane in the uterus, introduced a forceps and extracted about thirty inches of intestine, which he tore from the mesentery. Telling the family that this was the umbilical cord which had been retained, he left the patient in a state of collapse with his assistant, and hastened for Dr. Martin. The latter found the woman *in articulo mortis*, with the intestine between her thighs. The most he could do was to return the bowel into the abdomen and ask the attendant to report the events. The woman died in a few hours.

Martin also spoke strongly against the use of polypus forceps in such cases. Fleischlen had found them necessary and useful in cases in which the abortion occurred in a uterus fixed in retroflexion.—*University Medical Magazine*.

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#### RIGIDITY OF THE PARTURIENT CERVIX AND LOCAL ANÆSTHESIA IN LABOR.

Dr. T. H. Weagly (*Times and Register*, October 5, 1895) speaks highly of the results he has obtained in cases of rigidity of the cervix by the use of local anæsthetics applied directly to the parts by means of a spray apparatus. He uses the following solution :

- R. Phenolized cocaine solution (3 per cent.)..... f ʒ i.  
 Trinitrin solution (2 per cent.) ..... m x.  
 Sulphate of strychnia ..... gr. ʒ.  
 Listerine ..... f ʒ i. M.

He claims that this solution will expedite and soothe the first stage of labor, and that even when the occiput has entered deeply into the pelvis, by spraying the vaginal surface of the perinæum and outlet, the pains accompanying the expulsion of the head may be reduced to a minimum.—*University Medical Magazine*.



## HYGIENE AND PUBLIC HEALTH.

IN CHARGE OF

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AND

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SANITARY science is continuously extending its domain in France. The city of Montpellier has recently given peremptory orders that no article of food shall be delivered by the grocers and butchers of that town unless it is wrapped up in clean wrapping paper, and this new wrapping paper must not be colored.

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### HOTEL INSPECTION.

The following strongly-worded circular has been sent out by Mr. Henry Totten to the License Commissioners of the province: "On previous occasions circulars have been addressed to you setting forth that the Commercial Travellers' Association of Canada had brought to the notice of this branch several matters to which you were asked to give your consideration and attention. It was represented that in not a few licensed hotels, patronized by members of this association, the outside closets and inside lavatories were in a filthy and unhealthy condition ; that the sleeping apartments were indifferent in accommodation and kept in an uncleanly and slovenly manner ; that the sample rooms were poorly lighted, heated, and untidily kept. You were particularly instructed to make most careful inquiry as to the truth of these representations, with the view of removing all causes of complaint. A delegation of the above-mentioned association recently waited upon this branch, and urged that there was still much to be done in improving the sanitary condition of not a few of our hotels. Special mention was made of the unhealthy condition of the urinary and closet accommodation. I am directed by the Hon. the Provincial Treasurer to again point out to you that, in the interests not only of the association and the travelling public, but on sanitary grounds generally, it is your duty to see that there shall be no cause for complaint in this regard in future, and that all licensed hotels in your district shall have proper accommoda-

tion in every respect. It is hoped that it will not again be necessary to call your special attention to this matter. A special report will be required from you not later than the first day of May next, advising this branch of the sanitary condition of the hotels in your district."

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#### CONSUMPTION SANITARIUM.

A meeting of the provincial trustees of the National Sanitarium Association was held at the National Club. Among those present were Chief Justice Meredith, Edward Gurney, W. E. H. Massey, W. J. Gage, Hugh Blain, D. E. Thomson, and Dr. Powell. Chief Justice Meredith was appointed chairman, and George A. Cox, treasurer. A resolution was passed expressing the trustees' deep sense of loss in the death of the late chairman, Mr. H. A. Massey. The secretary, Dr. Powell, read a letter from Prof. Osler, of Johns Hopkins University, warmly approving of the proposal to start a home for consumptives in Canada, similar to that of Dr. Trudeau in the Adirondacks, which American medical men held in the very highest estimation. The chairman of the Interim Committee reported that the town of Gravenhurst had passed a by-law granting a bonus of \$10,000 to the Muskoka sanitarium; that a site of well-sheltered bush lands of some forty acres had been secured, with the option of purchase of thirty acres more adjoining; that Mr. Booth, of the Parry Sound & Ottawa Railway, had offered, on behalf of his company, to carry patients free from Ottawa to junction of that road with the G.T.R.; also that a deputation had waited upon the Minister of Finance asking for assistance of the Dominion Government. In view of the great and general interest taken in the project, and of the encouragement received from so many quarters, it was suggested that an effort should be made at once to increase the subscriptions to not less than \$250,000, so as to place the institution in Muskoka on a permanent basis immediately, and to open another institution at an early date at some suitable point in the Rocky Mountain district, and a committee was appointed to prepare a statement on which to base an appeal to the public.

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#### IMPROVEMENT OF MANCHESTER MILK SUPPLY.

Dr. Niven, medical officer of health for Manchester, has made some valuable suggestions for improving the polluted milk supply of Manchester, at a meeting of the Medico-Ethical Society held at the Queen's Hotel. His principal plan, after the model of that in working order in Copenhagen, was the formation of a company with a capital of, say, £10,000, combining the rôles of a supply association and a milk laboratory for the preparation of prescriptions by physicians. The amount of milk consumed

in Manchester at present, says the *City News*, might be estimated from a calculation made at considerable trouble by Mr. Rooke, the superintendent of the sanitary department. On the basis of his figures, the annual consumption of milk would be 7,600,000 gallons—not a large amount for a population of over half a million. The money value of this at  $3\frac{1}{2}$ d. a quart would be £443,314. The establishment of a milk company would be a boon to the people, would benefit the farmer, and would inflict no harm on the milk purveyor, provided he reformed and amended the error of his ways. In the discussion which followed Dr. Ashby pointed out that those who advocated the formation of a dairy company did not suggest that it would do away with the evils arising from back-to-back houses and other unsanitary arrangements, but it would undoubtedly cope with one very serious source of danger, especially to young children. What was wanted was an institution where not only pure milk could be obtained, but which would include a laboratory in which milk could be prepared in accordance with the prescriptions of medical men. The following resolution was passed unanimously by the meeting: "That this association looks with approval on the project of the formation of an association for the supply of pure milk, as well as of scientifically modified milk, and are prepared to support the movement by their recommendation."—*Sanitary Record*.

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#### HOW WE INTEND TO CHECK SUBSTITUTION OF DRUGS.

Owing to the fact that substitution of drugs is practised to a great extent, we earnestly request our readers to assist us in reporting to us all cases in which they may have been the victims of this criminal offence, giving the name and address of impostors; also all particulars to substantiate their statement, such as sworn affidavit, etc.

We will expose in our columns the names of fraudulent dealers on receipt of satisfactory evidences.

All our readers will admit that a doctor who prescribes a certain remedy expects that his prescription shall be filled accordingly. A druggist has no right whatever to use his own judgment in the matter; otherwise he places the reputation of the physician as well as the life of his patient in jeopardy.

Feeling that all doctors, honest druggists, and manufacturers of legitimate preparations will be benefited by our action in this matter, we solicit their assistance.

The above notice must be considered as a warning to druggists who believe that they are at liberty to substitute drugs.—*Journal of Medical Science*.



## Editorials.

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### CANADIAN MEDICAL ASSOCIATION.

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ON August 26, 27, and 28, the next annual meeting of the Canadian Medical Association will be held at Montreal. This will probably be the largest held for some years. The dates have purposely been fixed near the end of August, so as to enable large numbers from Ontario, as well as from the other provinces, to be present.

Already the Bluenoses are talking the matter up, and the council of New Brunswick has appointed delegates to the Committee on Interprovincial Registration. This committee is to meet on the day before the commencement of the general meeting, namely, on August 25, thus giving plenty of time to work out the whole problem as to how this desirable end is to be accomplished, and it is to be hoped that some feasible scheme will be proposed. It is, as yet, too early to make any announcement as to the programme; but we are sure it will more than come up to the usual standard, which is always high.

An effort will be made to secure a better travelling rate, which will ensure a much larger attendance than would otherwise be the case.

The secretary, we are sure, will be pleased to hear from any who expect to be present.

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### THE ONTARIO MEDICAL ASSOCIATION.

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THE next meeting of the Ontario Medical Association will be held in Windsor, June 3 and 4, 1896. As we intimated in our last issue, the various committees entrusted with certain duties in connection with the meeting have about completed their final arrangements. From the secretary, Dr. J. N. E. Brown, of Toronto, we learn that Dr. W. B. Geikie, of Toronto, will probably lead in the discussion on "Practice of Medicine"; Dr. H. T. Machell, Toronto, will lead on "Obstetrics"; Dr. Burt, Paris, it is hoped, will lead on "Surgery." Several papers have been promised by prominent physicians in various parts of Ontario. Dr.

Vaughan, of Ann Arbor, Dr. Carstens, of Detroit, and many other physicians of the United States, have promised to attend. We understand that Detroit, and a good portion of the State of Michigan, will be well represented. Dr. Pepper, of Philadelphia, has been invited, and, although at the time of writing we cannot speak with certainty, we are authorized to say that it is probable that he will be able to attend. The physicians of Western Ontario are quite enthusiastic over the matter, and it is expected that they will turn out in full force. The Committee of Arrangements is composed chiefly of physicians in Windsor and other towns in the west. We are told that they will leave nothing undone to make matters pleasant for the visitors, and that they are extremely anxious for a large representation from all sections of Ontario. We think that this is highly appreciated in Toronto, and that a large number of her doctors will accompany the president, Dr. Grasett, in his trip to Windsor, and will do all in their power to assist him and the various officers of the association in making the meeting an unqualified success. Those who intend to write papers are requested to communicate with the secretary as soon as possible.

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#### TRINITY MEDICAL ALUMNI ASSOCIATION.

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THE fourth annual meeting of the Medical Alumni Association of Trinity University was held in the Convocation Hall on Tuesday, April 7. There were two sessions, morning and afternoon, and a number of papers were read, some of which called forth some very interesting discussions. Much interest was added to the proceedings by the prominent part taken by two distinguished outsiders, Sir William Hingston, of Montreal, and Dr. J. H. Carstens, of Detroit, both reading very interesting and instructive papers. There was a good attendance of graduates and friends of the association, and all appeared to be very much interested in the discussions. Dr. T. H. Stark, vice-president, acted as chairman. The following officers were elected for the present year: President, Dr. J. C. Mitchell, Enniskillen; vice-president for Western Ontario, Dr. J. W. McCullough, Alliston; vice-president for Eastern Ontario, Dr. Douglas, Cobourg; vice-president for Toronto, Dr. Allan Baines; treasurer, Dr. W. H. Pepler; general secretary, Dr. Elias Clouse, Toronto; assistant secretary, Dr. D. J. G. Wishart, Toronto. In the evening a very pleasant banquet was held in the Rossin House, under the chairmanship of the retiring president, Dr. A. McKay, M.P.P. It was essentially a "family dinner," and especially interesting to members of the Trinity faculty, and the numerous graduates who were assembled to do honor to their *alma mater*. There were a few guests who had been invited in an informal

way, and among these was our genial friend from Detroit, Dr. Carstens. The dinner was a decided success. In response to the various toasts, the Dean of the college, Dr. Geikie, Dr. Temple, Dr. Carstens, Dr. O'Reilly, and others, including many of the graduates, made very neat and appropriate speeches. The members and friends of the association have every reason to be thoroughly satisfied with the success which attended both the meeting and the dinner.

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#### RAILWAY RATES AND MEDICAL ASSOCIATIONS.

PHYSICIANS the world over are commencing to learn the value of medical meetings. They find that their patients are benefited because of this annual outlay. At the same time they feel that they pay pretty dearly for something that is for the benefit of someone else.

Heretofore in Ontario the railways have kindly granted the usual convention rate of a fare and a third under certain conditions, and single fare under certain other conditions. These latter conditions, we believe, no association has yet fulfilled; hence the members do not derive the benefit of the single fare.

There are reasons why medical men should be granted a single fare return rate, or even better, without reference to numbers, and these we shall proceed to point out. Take a conference, for instance, where each delegate pays his fare and a third, or better, but he is reimbursed, his hotel expenses are *nil*, and someone supplies for him, usually, *gratis*; hence his work goes on just as well as if he were at home. With the medical man it is different; he pays his travelling expenses; in addition to this there is an outlay for a good, big hotel bill, and he leaves his patients to be looked after by a medical friend, who collects for the work done. When one considers the fact that he is doing this for the benefit of his patients, one will readily see that he pays pretty dearly for his experience.

Without doubt, the railways would be more than repaid if they would grant medical men a better travelling rate. In support of this we would refer to the maritime provinces, where a single fare is granted. When the Canadian Medical Association met at St. John, N.B., there were eighty-seven maritime province physicians present, and when it met at Kingston there were forty-nine Ontario men in attendance. When one remembers that in the maritime provinces there are only a little over eight hundred practitioners altogether, and in Ontario about two thousand four hundred, one must look for some reason for this disparity; and taking it for granted that in each case the programme was equally attractive, we think it is reasonable to suppose that the difference is due to the better travelling rate.



We thought it unfortunate that the railways should thus stand in their own light, as well as in that of the medical profession, and we have taken this opportunity of pointing out to them an additional source of revenue. Knowing the keen-sightedness of railway men, we feel sure that they will see the advantage to themselves of a better rate for physicians attending medical associations ; and when they are granting this additional privilege we would respectfully suggest that they extend the time limit as well.

### THE MEDICAL CURRICULUM.

THE present regulations of the Ontario Medical Council with reference to the length and character of the course of study in medicine are not altogether satisfactory. The following regulation is the one which is called in question : "Every student must spend a period of five years in actual professional studies . . . and the prescribed period of studies shall include four winter sessions of six months each, and one summer session of ten weeks. The fifth year shall be devoted to clinical work, six months of which may be spent with a registered practitioner in Ontario, and six months at one or more public hospitals, dispensaries, or laboratories devoted to physiological or pathological research." The matter was discussed at a meeting of representatives of all the medical colleges of Ontario, excepting the Medical Faculty of Western University in London, recently held in Toronto. We understand that nothing definite was settled at that meeting ; but the following facts were generally agreed to by those present : The winter sessions are too short, and ought to last eight months instead of six. It was thought this would be in the interest of both students and medical schools, because the large amount of work at present demanded of the student cannot be completed satisfactorily in the present short winter session ; the students complain that they cannot properly fulfil the requirements of the curriculum ; the proposed change would lessen the strain on the teachers and enable them to devote more time to practical instruction in the laboratories and hospitals. It was also suggested that the summer session and the fifth year of study be abolished, the result being that the same time would be employed in studying, and it would be arranged in a more profitable manner ; thus—proposed course, four years of eight months each—thirty-two months ; present course, five years of six months each, and summer session of two months—thirty-two months. It was thought that four continuous sessions of eight months each would be more satisfactory than the present five years' course. The opinion was also expressed that the summer session has always been unsatisfactory. We are not prepared to endorse this latter opinion, because some years ago certain of the summer sessions were eminently satisfactory. On the whole, however, we think that the opinions expressed are correct, and will be

generally acceptable to the profession. There was evidently no desire to propose any changes which would have the effect of lowering the standard ; and, as the fifth year, "devoted to clinical work," has not proved to be an unqualified success, it is quite probable that the council will modify its curriculum in the way proposed.

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#### DR. JAMESON.

**D**R. JAMESON stands accused of high crimes against the British Government ; but a large portion of his countrymen think of him not as a criminal, but rather as a hero. Much has been written about him since his unfortunate escapade in South Africa. Those who knew him most intimately before he left England refuse to believe that he was capable of doing a dishonorable act. We learn from *The Practitioner*, March, 1896, that he gave up his practice in 1888, and became intimately associated with Mr. Cecil Rhodes, the uncrowned *king* of South Africa. He undertook several missions which required ability, skill, and bravery to accomplish successfully. He soon developed into an expert diplomat, and a great general. Acting under the directions of Mr. Rhodes, he first went to Buluwayo to negotiate with Lobengula, the savage king, for certain concessions, and for permission to occupy his country with a pioneer force and develop its resources. In 1890 he went with a body of troops to occupy Mashonaland for Mr. Rhodes. He next went along the Biarra road prospecting for a railway to the east coast, and took his share in rowing 100 miles while suffering from fractured ribs. Soon after this he explored the Ghaza country on foot, suffering great hardships. He and his party had to subsist for some time on grasses for food, with an occasional meal provided by the gun. His knowledge of botany served him in good stead during that perilous trip. After Mr. Colquhoun resigned his position, Mr. Rhodes appointed Dr. Jameson administrator of Mashonaland, which post he retained until the recent raid. He is said to have developed extraordinary ability in connection with his duties in Mashonaland.

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#### KITSON v. PLAYFAIR.

**T**HE action recently brought by Mrs. Arthur Kitson against Dr. William T. Playfair and his wife for libel and slander has caused a great sensation in Great Britain. Mr. Kitson, the plaintiff's husband, who is also Mrs. Playfair's brother, went to Australia, and was married there in 1881. Mrs. Kitson's first child was born in 1882 ; a second child was born two years later. Afterwards, as it appears from her own evidence, she was constantly attended by medical men for uterine affections. She suffered from what she presumed to be a miscarriage just before leaving



Australia, but she had no medical assistance on that occasion. Her husband had been estranged from his family for some time, and received an allowance from one of his brothers. By agreement with her husband she came to England in October, 1892, and was ill more or less during the next sixteen months. In January, 1894, she called in Dr. Williams, who, after seeing her a few times, called in Dr. Playfair in consultation. Under chloroform Dr. Playfair removed something from the uterus, which, in his opinion, was a piece of fresh placenta. He concluded that she must have become pregnant within three or four months, and, as she had not seen her husband for about sixteen months, she must have committed adultery. She was receiving an allowance from her brother-in-law, Sir James Kitson, of \$2,500 a year. Dr. Playfair considered it his duty, on the grounds of morality, and in the interests of the family, to tell his wife and brother-in-law; and, as a consequence, Sir James Kitson stopped the allowance.

In court the plaintiff complained that after she had placed herself under the professional care of Dr. Playfair he had broken the solemn seal of professional confidence by betraying to his wife knowledge which he had acquired in the course of his professional duties. The defendant replied that the communication made by Dr. Playfair to his wife was a privileged communication, and if he *bona fide* believed that it was correct it was his duty to make it. The defendant, through his counsel, did not plead justification, nor ask the jury to say Mrs. Kitson was not chaste; but in the witness box he practically gave a positive opinion that she had committed adultery. It came out also incidentally that Dr. Spencer, Professor of Midwifery in University College, who had examined the plaintiff on two occasions, and had examined the "body removed," expressed the opinion that it might have resulted from legitimate conception, *i.e.*, conception before she left Australia. Mr. Arthur Kitson believed in the chastity of his wife, or, as the judge expressed it, "he believed in her truth and goodness, and stood by her." When Mrs. Kitson ascertained Dr. Playfair's opinion she begged for an interview that she might explain or answer any questions. The judge, in his charge, referred to this, and asks: "Why did not Dr. Playfair grant that interview? Would it have been such a professional indignity to have gone and heard her explanation? He, with his vast knowledge and experience, could have put questions to her that would have been vital to her case." In one of her letters to Dr. Playfair she asked, "Why did you not let my unhappy life go? I am hunted out like the veriest outcast." Dr. Playfair certainly did not temper his *justice* with much mercy. We have looked over the evidence in the action, and the charge of Mr. Justice Hawkins, with considerable care, in the hope that we might find something in the way of justification for the conduct of Dr. Playfair, either as a professional man, or an English gentleman; but we have to say, with deep regret, we have discovered nothing.



## Correspondence.

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### HYDATIFORM MOLE.

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To the Editor of THE CANADIAN PRACTITIONER :

DEAR SIR,—In your March number Dr. Hastings reported an interesting case of hydatiform mole, and called attention to its rarity. A short time ago I had occasion to report a case at our local Medical Society. Dr. H. K. Casgrain had a case a few weeks prior to this, and I noticed in the *Medical Counselor* of January, published in Detroit, a case reported by Dr. Mary Stevens.

It seems to me cases are not so rare as published accounts would indicate.

G. R. CRUICKSHANK.

Windsor, April 1, 1896.

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### EMPYEMA.

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To the Editor of THE CANADIAN PRACTITIONER :

DEAR SIR,—In the last number of THE PRACTITIONER, the article on empyema by Dr. Primrose concluded with a few notes I sent him, giving the final chapter in the history of one of his illustrative cases, with an account of the conditions found post-mortem. There was one important omission from the latter, and, as the whole case was of unusual interest, I shall be obliged if you will kindly make the insertion in this month's issue. The sentence was to this effect: "Dr. John Caven pointed out that the rarity of the case consisted in the fact that only red hepatization was found, no gray being visible." This would account for the late appearance of the pneumonic symptoms.

I also pointed out that the left lung was adherent from apex to base, thus showing the complete obliteration of the pleural cavity. This was, without doubt, chiefly due to the operation.

With apologies for troubling you, I am,

Yours sincerely,

JOHN STENHOUSE.

159 Bloor street east, March 7, 1896.

# Meetings of Medical Societies.

## TORONTO MEDICAL SOCIETY.

THE society's regular meeting was held in the council buildings, March 19, President Dr. Wm. Oldright in the chair.

### ULCERATION OF STOMACH.

Dr. N. A. Powell presented a stomach showing a small funnel-shaped ulceration which had perforated its posterior wall.

The patient, a healthy man, aged forty-two, was seized suddenly while at work with a severe pain, which prostrated him. It was not definitely localized. Death ensued inside of twenty-four hours. The doctor called attention to the various causes of gastric ulcer and their pathological anatomy.

He read the report of a second case, occurring in a girl aged eighteen, who first consulted her physician for amenorrhœa and rushes of blood to the head, which were relieved by manganese dioxide. Later, he was consulted for symptoms of indigestion. The pain continuing, he administered morphia. There was some improvement. He was called suddenly, and found the patient suffering extreme abdominal pain, accompanied by tenderness and tympanites. Death followed.

Dr. Powell then discussed the technique of operating in these cases. Reports of some thirty cases showed that only early interference would afford success.

Dr. McMahon referred to a case operated on by Dr. J. F. W. Ross with success after thirty-two hours. He called attention to the differences between perforation of the appendix and that of the stomach. At the height of digestion the stomachic contents were aseptic, which accounted for the great tolerance of them by the peritoneum where the leakage was small.

Dr. Carveth spoke of a case in which the perforation had taken place through the stomach wall, the contents making their way through the lung into a bronchus.

Dr. Greig outlined the pathology of gastric ulcer, and also referred to the etiology.

## DISEASE OF MIDDLE EAR.

Dr. McMahon reported a case of middle ear disease followed by cerebral abscess. The first symptom was pain, referred to the ear, which was readily controlled by morphia. This was followed by vomiting and headache and some vertigo. Pulse was good and temperature not high. The fever, however, ran up to  $103^{\circ}$ . Physical examination showed a systolic murmur. Post-mortem showed pus in the petrous portion of the temporal bone, and in the mastoid cells. There was also lymph in the meninges. The speaker compared this case with one of cerebellar abscess he had reported to the society a year ago.

Dr. Powell related a case he had seen. The patient was delirious, and had been suffering from cranial sepsis. The tympanic membrane was bulging. This he perforated, did Politzeration, probed carefully, and succeeded in evacuating a mass of inspissated matter, followed by a quantity of pus. A good recovery followed.

Dr. Peters presented a rough phosphatic calculus, three-quarters of an inch in diameter, which he had, by dilation of the urethra and the introduction of fenestrated forceps, removed from the bladder of a pregnant woman, aged 32, who had suffered greatly from pain, frequency of micturition, and the passage, previously, of smaller calculi.

Dr. Carveth related the history of two cases of perforating typhoid ulcer. One had not been diagnosed, not having been closely watched, till after death. The second was treated by the eliminative plan.

Dr. McMahon protested strongly against the eliminative form of treatment, as he had seen many patients succumb to its use.

THE regular meeting was held in the Council buildings, March 26, 1896. The president, Dr. Wm. Oldright, in the chair.

Dr. McPhedran presented a specimen of an

## ANEURISM OF THE ABDOMINAL AORTA.

The specimen was from a man who died in the Toronto General Hospital in October, 1895. Specimen showed the heart, lungs, and liver. The patient was thirty-five years of age, a harnessmaker by trade. He had not lived very regularly. He had had gonorrhoea, but he gave no history of syphilis. Sometimes he was dissipated and exposed to severe strain. Until two years ago he made no complaints especially, but in May, 1894, he noticed a pulsation of the epigastrium, and called the physician's attention to it. He suffered no pain or discomfort. On examination, a tumor was found which was diagnosed an aneurism.

The speaker saw him in June, 1894, when he entered the hospital. Patient remained in till the following May. Was kept in bed and given low diet—eight to ten ounces of liquid and what solid food he wished. When he came in the tumor occupied the angle at the ensiform cartilage.



It was  $2\frac{1}{4}$  inches in diameter each way. Two-thirds of it extended to the right of the median line. It raised the abdominal wall over the epigastrium, making it prominent. There were well-marked pulsations, the tumor was the expansile, and a bruit could be heard. The normal pulse was behind the radial pulse. He improved; the tumor, retracting moderately, became harder, and the expansion was less marked. He was allowed to sit up, which produced no change. To hasten matters, if possible, he was transferred to the surgical side, with a view to needling; but as this was not decided upon, he was returned to the medical wards, where he remained for some little time longer, and then went out. He lived quietly during the summer. In September he went to work, mattress-making. This caused pain and distress in the epigastrium again. He lost appetite and felt weak. On the 1st of October he returned to the hospital, when an abdominal tumor was noticed. One part of it was to the right of the median line, two inches in diameter, hard, slightly expansile. The other was larger, about three inches in diameter, and occupied the left side of the abdomen, reaching over the middle line, extending to the ninth cartilage, and reaching almost to the umbilicus. It was a soft tumor, and very expansile. It was thought the second tumor had erupted from the side of the first, rather than from the aorta. The question arose as to whether the first sprang from the aorta or from the coeliac axis. The second tumor caused very little pain—some in the back. Could move about in bed. He was treated as before. Potassium iodide was given in small doses, and nitro-glycerine to lower blood tension. Was kept in bed about two months, the tumor undergoing very little change. Thinking there was little chance of material benefit, he was allowed to sit up, which produced no change in the tumor. A short time after he felt some distress in the epigastrium, which was followed with collapse, and he died in a few hours. The autopsy showed that the tumor occupied the whole circumference of the aorta. The bodies of two vertebral spines were eroded. The light tumor was consolidated and very thick, from having a great deal of deposit in its inner surface.

The second aneurism was very thin-walled. The entrance from the aorta into the tumor was contracted so as only to permit the point of the index finger. There was some atheroma and some dilatation above this point. This contraction must have lessened the tension in the aneurism. The tumor had ruptured to the right and posteriorly, the blood passing behind the right crus of the diaphragm and piercing the pleura.

The doctor gave the history of a somewhat similar case that had been under his charge a year or so ago, which he had reported to the society before.

Dr. Machell asked how it was proposed to needle. He thought it

would be risky. Dr. McPhedran replied that to do so it would be necessary to make an abdominal section.

Dr. Oldright recalled a case he had had under his care where the patient had been insured shortly before he was consulted. Patient at this time was complaining of pain from indigestion, for which he prescribed. The patient, coming again, told the doctor he had a lump in the abdomen, which proved, on examination, to be a full-grown aneurism, which had eroded one of the ribs. The patient died in four or five months. The post-mortem showed that the aneurism had pierced into the lung, had formed a cavity there, and some weeks after, the speaker thought, had pierced into the pleura, causing collapse and death.

Dr. Grasett recalled a case of abdominal aneurism where the patient, who was in a ward in the hospital, was suddenly seized with a burning pain in the abdomen, ran across the ward, jumped over the bed, and died. The post-mortem showed ruptured abdominal aneurism. He thought in many cases, perhaps, the symptom of epigastric pulsation sometimes led to errors in diagnosing abdominal aneurism. He thought they were extremely rare.

Dr. McPhedran said that the only way which one could be sure of was by the presence of the tumor, its being expansile and pulsating. Large abdominal aneurisms were sometimes difficult to diagnose. He reported a couple he had seen where the greater part of the abdomen was occupied by the tumor.

Dr. Grasett read the history of a case of

#### TENO-SYNOVITIS.

He related the history of a case. Patient was a man who, four years ago, first noticed a small, soft lump forming in the centre of the palm of the left hand. When he flexed the fingers it caused pain in that region and across the first phalanges. He had been working in a livery stable. One of his duties was to carry a large bucket about twice the size of an ordinary one, which had an iron handle unprotected by any wooden ferule. As a result, it caused, first, soreness, and then a contraction of the fingers, followed by a tumor in the palm, which caused him to desist from his occupation. The lump grew larger, and he consulted a medical man, who ordered the application of iodine. After a time the tumor became somewhat soft near the hypothenar eminences.

At this point the doctor in attendance opened it. This operation seemed to do no harm, but did no good. He said out of this opening, which persisted, small bodies would pop out. He went into the hospital, where he came under the speaker's care. Swelling occupied the whole palm, and extended above the wrist for three or four inches. A diagnosis of teno-synovitis was given, likely implicating the flexor tendons.

There was no tubercular family history given, although the patient looked somewhat tuberculous himself. A free incision was made in the palm and also in the wrist, and the annular ligament cut through, when a large number of rice bodies were evacuated. (These specimens were examined by the members of the society.)

Dr. Grasett said that he remembered the first case he saw, some twenty-five years ago, while a student in Edinburgh. The custom had been to treat them by blisters, etc. They were supposed to be next to incurable. Then Syme conceived the idea of free incision and drainage, which idea he put into practice, with the effect of causing a complete cure. The doctor discussed the pathology of these rice bodies, and stated that they are usually supposed to be caused by tubercle.

Dr. Oakley said that two months ago he had a case of fracture of the humerus above the condyles. Recovery took place, but on examining the wrist recently he found it to be about twice the size it should be. The swelling was rather soft and elastic. With a consultant, he examined it carefully, and the decision was that it was probably tuberculous. He thought that it was probably a case similar to the one which Dr. Grasett had reported.

Dr. W. J. Wilson reported a case he had seen some few years ago, where a man had trouble in the flexion of the wrist. There was no tubercular history, but a strong rheumatic one. Quite a large collection of these rice bodies escaped when it was incised.

Dr. H. H. Oldright reported a case he had seen in a washerwoman, the whole palm being swollen. When she stopped work it improved. She opened it with a needle herself. He extended the opening a little larger. After that he lost sight of the case.

He reported another case where these rice bodies were present.

Dr. Machell referred to a case. The patient was a young man about twenty. The wrist had the appearance of being tuberculous. Careful examination revealed a deep fluctuation. He opened in the palm and in the wrist, and flushed through the two openings. A large number of these rice bodies were evacuated. They were larger than the one presented at the society to-night, and flatter.

Dr. W. H. Oldright reported some cases that had come under his observation. He also referred to the treatment of cases of ganglion he had had. He reported one growing on the flexor tendon of the wrist, which he pierced, dissipating the fluid, but which reformed, and then he excised. He described the method by which he did the operation subcutaneously.

If these cases were tubercular, he thought it would be wise to remove them radically rather than temporize.



Dr. Grasett closed the discussion.

Dr. McKenna read the following paper :

About six weeks ago I was called to see Mrs. D., æt. 46. About an hour previous to my visit she had had a severe chill, accompanied by vomiting of tenacious mucus tinged with bile. A few minutes after the vomiting a violent pain seized her in the right portion of the epigastrium.

When I arrived I found her writhing with agony and throwing herself from one side of the bed to the other ; the surface was cold and covered with a clammy sweat. She complained of severe pain radiating through the shoulders and back, but the situation of the greatest pain was in the region of the gall bladder, which was also exquisitely tender.

After the hypodermic administration of morphia and atropine and the application of hot fomentations the pain entirely ceased, and as my patient was now feeling fairly well I left, first instructing the nurse to search the stools carefully for a gallstone.

When I visited the patient the following morning I found her deeply jaundiced ; there was extreme tenderness extending from the lower margin of the liver to the umbilicus; temperature 102°. As there was now no vomiting I administered opium freely, and ordered the hot fomentations to be continued. Under this treatment she continued to improve, and in two or three days was apparently well. I now prescribed phosphate of soda, and ordered the inspection of the stools to be continued. In one week from the date of my last visit I was hurriedly summoned in the night, and found the patient in precisely the same condition as before ; the same routine was gone through, with a like result.

After remaining well for eight or ten days she was again attacked, but the pain and tenderness did not at this time cease entirely, and for several days there were slight exacerbations. She now began to pass by stools the specimens which I here offer for your inspection. They were voided in lumps imbedded in tenacious mucus, and continued to come away for seven or eight days. After the last of these little bodies had made their appearance—and there must have been two or three handfuls of them—there was passed by stool an ounce or more of fine black powder, hard and gritty, closely resembling powdered coal. I am sorry I cannot show you this substance, as it was thrown out before I could obtain possession of it. I examined it, however, and it presented the appearance described.

During the course of her illness, careful palpation, owing to her obese condition, failed to discover anything like a tumor. I had almost forgotten to say that in the month of July last I attended her during a severe attack of gastro-duodenal catarrh. Since the disappearance of these little substances, about two weeks ago, she has remained entirely well.

After showing these specimens to Dr. W. Oldright, and having them examined under a powerful glass, I questioned her closely as to what she had been eating lately, and she assured me that she had not eaten anything containing seeds since last summer. During the summer of last year, however, she ate large quantities of berries and tomatoes. This admission, I think, will explain the nature and cause of her severe attacks.

The question arises, Where did these mischievous little fellows take up their abode? Was it in the transverse arch of the colon, or where? At any rate, they must have been very affectionate, for they evidently stuck together like brothers.

Dr. J. Spence presented the following case :

On November 26, 1895, Mrs. W., strongly built, æt. 45, the mother of ten children, consulted me. She had been under the care of Dr. Wallace, but as she had moved to my locality Dr. Wallace recommended her to me. She was in the seventh month of pregnancy, complained of intense headache, spots before the eyes, etc. She was very œdematous over her whole body, including face, arms, and legs. Dr. Wallace had told her she had kidney affection. The amount of urine she passed in the day was scanty. On examination it was found about two-thirds full of albumin. I prescribed hydragogue purge, and gave diuretics—this was about six o'clock in the evening. About 11.30 I was summoned in a hurry by her son, who said his mother was in a fit. She was in her second fit when I arrived. I gave a hypodermic of morph. sulph., 1 gr., and *m.* 10 oil crotonis on the tongue. She became restless, and continued so for about two hours, when I gave her another  $\frac{1}{4}$  gr. morph. She slept then till about seven in the morning, when she took another convulsion. Her bowels had moved freely in the night, and she had passed water. I examined, and found the os slightly open and soft. Dr. Wallace arrived, and we determined to empty the uterus. I dilated with my fingers and introduced my hand, secured the feet and delivered. It took about an hour to dilate, turn, and deliver. The child was dead, and was more œdematous than the mother. It seemed to be entirely destitute of the red blood ; otherwise seemed perfectly developed. The mother made an excellent recovery. In these cases I depend on morphine.

Dr. McIlwraith asked if there were any casts in the urine.

Dr. Brown asked if he usually gave one grain dose of morphine.

Dr. W. J. Wilson asked if there was any old kidney trouble present. He said that he had used the morphia treatment, and had found it very efficacious.

Dr. A. R. Gordon related a case occurring in a primipara, who married at the age of 37. She had a narrow pelvis and a rigid perinæum. She had seven convulsions before delivery took place. She was badly

lacerated. Chloroform was given, but no morphia. Both mother and child lived.

Dr. A. A. Macdonald said he considered it wise that prophylactic measures should be used. In such cases, besides using the eliminative treatment, the patient's general health should be built up by the administration of iron. In the treatment of convulsions he favored chloroform instead of the morphia, although he admitted that morphia had been used with good effect, and he would not be afraid to use it in suitable cases. As a rule, croton oil worked well in these cases. Sometimes, however, the oil was of an inferior quality, or the patient might not be able to swallow it. In that case it might be introduced into the stomach per catheter.

Dr. Hunter referred to cases of puerperal convulsions occurring in the country in districts remote from a medical man, where no treatment was given, recovery following. He thought it was difficult to say just how much good any particular form of treatment did. Many of these cases aborted.

Dr. Oakley said he had known many of these cases recover without treatment, and he had seen some where all forms of treatment seemed ineffectual.

Dr. Machell said that he considered Dr. Hunter's last statement explained the cure that took place spontaneously, viz., that they aborted. Regarding Dr. Spence's recommendation of the use of diuretics, he was unable to say positively whether their use was helpful or not. The plan of treating an inflamed eye, say, with stimulants would not be wise; and this was true with other inflamed organs. He thought stimulation of the kidneys when in this condition unwise. The practice, however, was a common one among the members of the profession. As yet opinion was divided as to whether diuretic treatment was of value or not. There was no two opinions about the value of the purgatives. He recalled a case he had seen two or three years ago, where the woman had convulsions. She was absolutely insensible when he arrived. The cervix had not commenced to dilate at all. She was breathing stertorously. The uterus was emptied with difficulty, and a child six and a half months old delivered. In another case he had seen, the patient never regained consciousness after convulsions. The Americans were using *veratrum viride*, and with some of them the effects were marvellous. They give it in large enough doses to bring the pulse down to fifty, and hold it there. Dr. Jouett, of Boston, had never seen it fail where the pulse had been kept down to fifty. Other prominent Americans had claimed equally good results. We in Canada had not such results with it, nor with morphia, chloral, or chloroform. The speaker was recently called to see a patient who had had seventeen convulsions before his arrival. Ninety grains of



chloral had been injected into the bowels, which controlled the convulsions for a few hours. The cervix began to dilate, but as the pain became stronger the convulsions reappeared. Chloroform was given, and delivery accomplished as soon as possible. The foetus was about six months old, and dead. The patient did very well. No one line of treatment would answer in all cases.

Dr. Wilson said he had known the convulsions to come on after labor in the country where there was no attendance, and the patient recovered. He recalled a case he had had where the woman had no convulsions at the time of labor, but they came on after he left to the number of twenty. No treatment was given. Some of the worst cases he had known of had come on after the uterus was emptied. He recalled a case where the convulsions came on fourteen hours after delivery, and continued till death. In early cases of albuminuria he recommended the tonic treatment referred to by Dr. Macdonald, as well as the eliminative. He had administered diuretics. His idea for doing that was not with the same idea he had in treating the inflamed eye. He considered there was a mote there, and was trying to remove it, to get the casts out of the tubes. On that account he administered saline diuretics, and as much water as he could get the patient to drink. In these cases where albuminuria was present to a marked degree, if treated after this manner labor would pass over without untoward results generally.

Dr. Oldright said that any cases he was called to attend in labor received always an examination of the urine. Where he had taken this precaution he had never seen any convulsions.

Dr. Spence said, in reply, that he thought there was no old kidney affection. He did not know if there were any casts in the urine. He gave one-grain doses of morphia, repeated within an hour or two if the first dose did not act. He had not seen any bad results follow its free administration. He was in favor of the use of diuretics, for the same reason as it was given in nephritis—following scarlet fever—to flush out the kidneys and eliminate the poison.

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#### LONDON MEDICAL SOCIETY.

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THE regular monthly meeting of the London Medical Association was held at the Medical College building on Monday evening, March 9, 1896 Dr. Meek, president, occupied the chair.

Dr. Charles Moore read a paper on a case of

##### INTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR

in a boy fourteen years of age. The doctor pointed out the liability of mistaking this injury in a child for hip-joint disease. Dr. Wishart had

met with only one case of this fracture in a child. The patient was presented to the association. The injury happened three months ago. He is going about with the aid of a crutch. There is one inch shortening, slight prominence of the trochanter, flexion and abduction somewhat limited.

Dr. Hobbs, of the London Insane Asylum, read a paper on

GYNÆCOLOGY AMONG THE INSANE.

His report covered nineteen cases, including subjects suffering from acute, chronic, and puerperal mania. The operations consisted of curettage, divulsion, trachelorrhaphy, amputations of cervix, the Alexander operation, vaginal hysterectomy, removal of ovarian cysts, and coeliotomy. Of the nineteen cases, eight were discharged as recovered physically and mentally, two are discharged on probation, six are still inmates of the asylum, and three died, one of them six months subsequent to operation, another on the twelfth day, and the third on the fifth day after operation from exhaustion. Of the sixteen surviving patients every one of them improved physically, while ten out of the nineteen have recovered mentally. Dr. Hobbs noted the significant fact that the majority of insane women with pelvic lesions studiously avoid referring to any symptoms that would excite suspicion as to the presence of such disease, and stoutly maintain that the pelvic organs are all right.

Drs. Hodge, Moore, Wishart, Meek, Kingsmill, and Ferguson discussed the paper and commended the work being done by Dr. Hobbs. Dr. Meek stated that having assisted Dr. Hobbs in nearly all of his cases and watched the after-effects, he could testify that the doctor had underrated rather than overrated the character of his results.

## Book Reviews.

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THE PRINCIPLES OF BACTERIOLOGY : A PRACTICAL MANUAL FOR STUDENTS AND PHYSICIANS. By A. C. Abbott, M.D., Laboratory of Hygiene, Philadelphia, Penn.

This is the third edition of Dr. Abbott's very useful book. The new matter is not great in amount, but useful, and the character of the book is such that one cannot but hope to see new editions very frequently. It answers the purposes of a laboratory guide and text-book combined better than any other work of which we know. We notice that on page 57 the author speaks of the difficulties to be met with in using the autoclave for sterilizing. We must say that to us it appears that these difficulties have been greatly overestimated. Clouding or loss of stiffening power in gelatine treated by steam under pressure is always spoken of, but we have never met with them even on exposure to 120° C. for twenty minutes.

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THE AMERICAN YEAR BOOK OF MEDICINE AND SURGERY. Being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Collected and arranged with critical editorial comments by eminent American specialists and teachers, under the editorial charge of George M. Gould, M.D. In one royal 8vo volume of about 1,200 pages, uniform in size with the "American Text-Book" series. Profusely illustrated. Prices : cloth, \$6.50, net ; half morocco, \$7.50, net. Philadelphia : W. B. Saunders, 925 Walnut street.

Dr. Gould, the very able editor of this admirable "year book," tells us in his preface that the general design is to give general practitioners an annual epitome of the new and progressive medical truths published during the preceding year in all departments of medicine and surgery. No effort is made to furnish a literary review of all published matter, but, rather, a summary of medical progress, including those things which are actually contributory to such progress, both scientific and practical. We cannot attempt to review such a book, but are glad to say, without the slightest hesitation, that Dr. Gould and his able staff of editors have done their work well. We would, of course, expect nothing less after looking over the list, including, as it does, Doctors Pepper and Stengel, General Medicine ; Keen and Da Costa, Surgery ; Hirst and Derland, Obstetrics ; Baldy and Derland, Gynæcology ; Starr and Westcott, Pædiatrics.



EPITOME OF MODERN SURGICAL PROGRESS. For Students and Practitioners. Urinary Surgery. By E. Henry Fenwick, F.R.C.S. Eng. 220 pages. Illustrated. \$1.00. Bristol: John Wright & Co. Toronto: J. A. Carveth & Co.

That a volume of this kind should go through a first edition, and demand a second within a year, speaks very highly for the value of the work. No one that we are acquainted with is more capable of bringing the subject of urinary surgery up to date than Mr. Fenwick. He has devoted a great deal of time to this special branch of surgery, and is a master of its details. We cannot, at this age, by any possible means, keep up to the vast amount of work done in all branches of the profession. These epitomes are of value in aiding us to keep abreast of the times. We cannot speak so highly of all epitomes, because they are often carelessly compiled. But of this particular one too high praise cannot be given. It is liberally and beautifully illustrated. The general practitioner should have the work at his hand, for he will find that many difficult problems can be easily solved by reference to its pages. The typography and letter-press are in the usual good style of Messrs. Wright.

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A MANUAL OF OPERATIVE SURGERY. By Lewis A. Stimson, B.A., M.D. Surgeon to the New York, Bellevue, and Hudson Street Hospitals, Professor of Surgery in the University of the City of New York, etc., and John Rogers, jr., B.A., M.D., Assistant Demonstrator of Anatomy in the College of Physicians and Surgeons, New York, etc. Third edition. 334 illustrations and 3 colored plates. 733 pages. Cloth. Philadelphia: Lea Brothers & Co.

It is next to an impossibility to compress a lucid description of all the multitudinous operations in surgery in any one 12mo. volume of six hundred pages. Something has to suffer. A manual of operative surgery is a great aid to the general practitioner, who, in the great rush of general work, cannot, by any means, keep in touch with all the advancements of technique and what not. He possibly forgets many of the details of some of the older operations. A little furbishing up will bring them all back, and in the newer ones make him well acquainted with the details. Whether this is a wise procedure or not, we will not say; yet it is and will be done.

This volume furnishes the material for such information very nicely, indeed. It is now in its third edition. On page 410, in speaking of the operation for removal of vermiform appendix without pus contamination, a drain is advocated in all cases. We doubt the wisdom of this course, and believe that drainage, where not required, is a serious admission of lack of faith in the technical procedure of the operation. Again, it is advocated that in operating during the period of inflammation to always remove the appendix. This is an open question, and should not be placed in any such positive manner in a volume of this kind.

We have nothing but praise for the work as a whole, and recommend it to the profession.

THE INTERNATIONAL MEDICAL ANNUAL and Practitioner's Index for 1896. Edited by a corps of thirty-seven department editors—European and American—specialists in their several departments. 728 octavo pages. Illustrated. \$2.75. E. B. Treat, Publisher, 5 Cooper Union, New York.

The fourteenth yearly issue of this valuable one-volume reference work is at hand ; and it richly deserves and perpetuates the enviable reputation which its predecessors have made for selection of material, accuracy of statement, and great usefulness. The corps of department editors is representative in every respect. Numerous illustrations, many of which are in colors, make the "Annual" more than ever welcome to the profession, as providing, at a reasonable outlay, the handiest and best yearly résumé of medical progress yet offered.

Part I. comprises new remedies, and a very complete review of therapeutic progress of the year. Some of the remedies mentioned have only been placed on the market a few months, yet we find them well described ; for instance, argonin, one of the salts of silver, very useful where a precipitation of the chlorides is not desired.

Part II. includes a number of recent articles by eminent authorities : "How to Determine the Parasite of Malaria" ; "The Diagnosis of Toothache and Neuralgia" ; "The Remedial Value of Cycling" ; "Sensory Distribution of Spinal Nerve Roots" ; "Angeio-Neurosis" ; "Life Insurance." Part II. again shows how closely the work is kept up to date. Roentgen's skiagraph was not announced to the world until December, 1895, yet we find it well described and illustrated in this volume.

Part III., comprising the major portion of the book, is given to the consideration of New Treatment. It covers 500 pages, and is a retrospect of the year's medical and surgical progress.

The fourth, and last, part is made up of miscellaneous articles, such as "Recent Advances in Sanitary Science" ; "New Inventions in Instruments and Appliances" ; "Books of the Year," etc.

The arrangement of the work is alphabetical, and, with its complete index, makes it a reference book of rare worth.

In short, the "Annual" is what it claims to be—a recapitulation of the years' progress in medicine, serving to keep the practitioner abreast of the times with reference to the medical literature of the world.

## Medical Items.

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DR. JAS. H. BURNS, of Toronto, spent a portion of March in Washington.

A "DISAPPOINTED CONTRIBUTOR" said that his editor was "subject to fits of rejection."

PROFESSOR ROENTGEN is more correctly Herr Doctor Roentgen (pronounced "Renken").

DRS. ALLEN BAINES and George Bingham spent a fortnight in Atlantic City in March and April.

THE examinations of the medical department of the Western University are now in progress at London.

DR. G. STERLING RYERSON, M.P.P., sailed for Europe, where he will spend a few months recuperating.

THE annual meeting of the American Public Health Association will be held in Buffalo in September, 1896.

THE forty-fifth annual meeting of the Iowa State Medical Society will be held at Des Moines, April 15, 16, and 17.

DR. ECCLES, of London, and Dr. Holmes, of Chatham, are at present spending some weeks at Johns Hopkins, Baltimore.

DR. CHARLES A. L. REED, of Cincinnati, has been appointed a member of the Ohio State Board of Medical Registration and Examination.

CARRYING CHILDREN ON BICYCLES.—San Francisco has passed an ordinance prohibiting bicyclists from carrying on their machines any child under the age of six years.

FORTY-ONE of the forty-six practitioners in London signed the agreement *re* lodge practice; but, owing to the refusal of the remaining five to sign, the agreement has fallen through.

THE MEDICAL RECORD'S THIRTIETH BIRTHDAY.—The New York *Medical Record* completed its thirtieth year on Saturday last, the first number having been issued March 1, 1866.

DR. J. T. DUNCAN, Parliament street, is going to Moorefields, London, to devote special attention to the eye. When he returns he will give up general practice and devote his time to ophthalmology.



THE National Confederation of State Medical Examining Boards will hold its sixth annual meeting in Atlanta, Monday, May 4, 1896, under the presidency of Dr. William Warren Potter, of Buffalo.

THE *Medical Record* gives the *Medical Press* as its authority for the statement that sixty-one deaths have occurred from anæsthetics in Great Britain during the past year. Fifty-two of these have been due to chloroform.

THE American Climatological Association will hold its next annual meeting in Lakewood, N.J., in May, 1896. The president of the association is Dr. James B. Walker, and the secretary Dr. Guy Hinsdale, both of Philadelphia.

DR. BALFOUR, superintendent of the London General Hospital, is not a candidate this year for the presidency of the Canadian Wheelmen's Association. He hopes, however, to bring the meeting of that association to London next year.

THE medical men of Windsor, Ont., at a meeting held lately, passed a resolution condemning the water supply of that city, and attributing the recent outbreak of typhoid fever to the pollution of the water by sewage from the town of Walkerville. Dr. Bryce, Provincial Health Officer, has instituted an investigation.

SALE OF QUININE IN TOBACCO SHOPS.—A bill has been introduced into the Italian Chamber of Deputies to add quinine to the other government monopolies of salt and tobacco, and to confine its sale to those who have a government permit. If this became a law the druggists would be forbidden to sell the drug, and those who wanted it would be obliged to procure it from a tobacconist.

MEDICAL MEN TO AVOID.—The one who has acute exacerbations of insanity when exposed to any new fad. The one who is always successful with all his difficult operations. The one who always sees hundreds of cases of a rare disease. The one who can always match your case and improve on your treatment. The one who always finds you have omitted something in the examination of your case. The one who thinks he can talk well, and is always ready to discuss any paper of the evening. The one who is always the first to do the new operation. The one who is in a chronic fear of being anticipated in his important discoveries. The one who in consultation feels it his conscientious duty to explain to the patient why he differs with the attending physician.—*Medical Record*.

DOCTORS SHOULD NOT BE SO MODEST.—I know that there is a general feeling among physicians of the better sort that conspicuous interest in public affairs may be misconstrued and looked upon as in some sort a means of professional advertisement. And one cannot choose but to appreciate and admire the sensitiveness and high sense of honor of which the sentiment is born. But, after all, there are greater misfortunes in life than being misunderstood, and I think that the fine feeling which leads the physician so often to waive the privileges of social and public life in the interest of what he conceives to be professional ethics is capable of a richer fruitage yet, in the defiance of mis-

construction, when impelled to whatever performance of public duty he can justify to himself.—*Dr. T. Mitchell Prudden, Address before Yale Medical School; Medical Record.*

In his book, "A Little Tour in America," Dean Hole, of Rochester, Eng., quotes with unction many specimens of what he regards as typical American humor. When he was in Cincinnati the thing that most impressed him was the following bit of doggerel which he heard recited in that city :

Little Willie from his mirror  
Sucked the mercury all off,  
Thinking, in his childish error,  
It would cure his whooping cough.  
At the funeral Willie's mother  
Smartly said to Mrs. Brown :  
" 'Twas a chilly day for William  
When the mercury went down."

THE directors of the Post-Graduate Medical School and Hospital have named one of their wards in memory of the late Dr. Charles Carroll Lee, who was for many years a professor in the institution. They have placed a tablet in the ward, giving the names of those who combined to contribute the ten thousand dollars which was given for the purpose of the memorial. These names are as follows : Dr. Robert Abt  , Dr. L. Bolton Bangs, Mrs. James Beales, Dr. Stephen S. Burt, Miss Caldwell, Dr. Charles L. Dana, Dr. Bache McE. Emmet, Dr. George H. Fox, "A Friend," Dr. Horace T. Hanks, Mr. and Mrs. Eugene Kelly, Mr. and Mrs. Henry J. Lamarche, Dr. Daniel Lewis, Mr. and Mrs. William Lummis, Mr. and Mrs. Frank A. Otis, Dr. Clarence C. Rice, Mr. Eli K. Robinson, Mr. Nelson Robinson, Dr. D. B. St. John Roosa, Mrs. Eliza M. Sloan, Dr. Andrew H. Smith, Mrs. M. E. Sparks, Dr. Reynold W. Wilcox. It will be seen that the faculty of the institution participated largely in the memorial gift.

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TOLD IN CHICAGO.—Freddie had the croup, and Mr. Burton dressed hastily with the help of his wife, who insisted upon his taking his revolver, and rushed out for the doctor.

The night was very dark, and in going around a corner Mr. Burton collided heavily with some one, and then jumped backward.

"Excuse me," said the man, and walked on.

Burton grasped his weapon, thought a moment, felt for his watch ; it was not there, the man had taken it.

Burton drew his revolver and shouted : "Stop, or I'll shoot." The man stopped. "Now, said Burton, "give me that watch." The robber handed it over.

Burton returned and related his adventure, only to learn that his wife had removed the watch before he went out. A half-hour later the doctor came in somewhat agitated, and explained that while returning home from an urgent case he had been held up by a most villainous-looking highwayman and robbed of his watch.—*Medical Record.*

THE FORTHCOMING INTERNATIONAL PERIODICAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.—The second session of this congress is to be held at Geneva, Switzerland, in the first week of September. In the section for gynæcology the following is the official programme : (1) "Treatment of Pelvic Suppurations"—Reporters : Dr. Bouilly, of Paris ; Dr. Kelly, of Baltimore ; Dr. Zweifel, of Leipsic. (2) "Surgical Treatment of Uterine Retro-Deviations"—Reporters : Dr. Küstner, of Breslau ; Dr. Pozzi, of Paris ; Dr. Polk, of New York. (3) "What Method of Closing the Abdomen Presents the Best Guarantee against Abscesses, Eventrations, and Hernias ?"—Reporters : Dr. Granville-Bantock, of London ; Dr. La Torre, of Rome. In the section for obstetrics : (1) "Relative Frequency and Most Common Forms of Pelvic Contractions in Different Races, Groups of Countries, or Continents"—Reporters : Dr. Fancourt Barnes, of London ; Dr. Dohrn, of Königsberg ; Dr. Fochier, of Lyons ; Dr. Kufferath, of Brussels ; Dr. Jentzer, of Geneva ; Dr. Lusk, of New York ; Dr. Rein, of St. Petersburg ; Dr. Pawlick, of Prague ; Dr. Pastalozza, of Pavia ; Dr. Traub, of Leyden. (2) "Treatment of Eclampsia"—Reporters : Dr. Charles, of Brussels ; Dr. Charpentier, of Paris ; Dr. Halbertsma, of Utrecht ; Dr. Loehlein, of Giessen ; Dr. Mangiagalli, of Milan and Pavia ; Dr. Parvin, of Philadelphia ; Dr. Smyly, of Dublin.

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PROF. LEWIS A. SAYRE'S NINETEENTH BIRTHDAY.—Our distinguished townsman, Prof. Lewis A. Sayre, although seventy-six years of age on Saturday last, had reached at that time but his nineteenth birthday, it coming only in leap years, or on February 29. When Professor Sayre celebrated his eighteenth birthday in 1892, the Rev. Dr. William R. Huntington, pastor of Grace Church, sent him the following poem :

"Dear Doctor Sayre, and is it true  
That Nature set her clock for you  
Some four and fifty years too slow?  
How clever of her to foreknow  
That you would keep yourself so young,  
So firm of heart, so stout of lung ;  
That she would never be detected,  
Or you so much as e'en suspected  
Of being older by a day  
Than leap-year records seem to say !  
Eighteen, dear friend, or seventy-two,  
Which e'er it be, good luck to you !"

"So say we all of us." Thousands of his professional brethren on both sides of the Atlantic, his numerous friends and patients, and all his old associates, wish him many returns. Few are privileged to get the better of their birthdays in this way and receive the twice-doubled congratulations that attend them. You are welcome to all, old friend. Smell the flowers while you can.—*Medical Record.*



## PROFESSIONAL ADVERTISING.

The editor of our esteemed contemporary, the *British Medical Journal*, has been cast in damages to the amount of £150 for speaking too strongly of the conduct of one of our profession.

It appears that Dr. Kingsbury, the plaintiff, had permitted his name to appear upon the prospectuses of two hydropathic establishments, and that the defendant journal, in answer to a query from a correspondent, had said that his conduct in doing so was "wholly incompatible with the honor and dignity of the profession," and suggested that he deserved "reprobation" at the hands of his professional brethren. That is the whole case in a nutshell.

Some months ago—November last—we felt impelled to speak on the question of professional advertising, and we then pointed out the unfairness of denouncing and worrying the younger and less distinguished members of the profession for offences of this description, which were in reality no worse, if they were even as objectionable, as those committed every day with impunity by men in the higher ranks of the profession. We said that while many struggling general practitioners were promptly jumped upon for any slight error in the way of publicity, men of high repute did what amounted to the same, or worse, and no notice was taken of it. We spoke strongly on that occasion. We said, after giving instances: "The transparent humbug of permitting this sort of thing to go unnoticed, while the poor practitioner is hauled across the coals daily for offending not one whit more grossly, is a disgrace to the profession," and we say so still.

It is disagreeable and even humiliating to have to speak on this subject, but it is one which must be spoken of so long as things are permitted to go on as they are going at present. Should we not have some new reading of Shakespeare's delightful couplet:

"What in the captain's but a choleric word  
Is in the soldier rankest blasphemy"?

The evidence given the other day at the Manchester Assizes must have been highly amusing, if not indeed confusing and even bewildering, to those who for the moment were happy in not belonging to the honorable profession. Will someone who knows—we do not—inform us what is the difference, socially or professionally, between a hydropathic establishment and a home for inebriates? Will the same gifted person, or some other, tell us why permitting your name to appear upon the prospectus of one kind of establishment to which you are medical adviser—say, a hydropathic establishment—should be penal, "incompatible with the honor and dignity of the profession," while permitting it to appear on the prospectus of another business concern—say, an insurance company—is honorable and dignified?

The whole thing is pitiful in the extreme, and well calculated to demean the whole profession in the eyes of the public—and its own.—*The Medical Magazine*.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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### THE DRAINAGE TUBE IN ABDOMINAL SURGERY.

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By J. F. W. ROSS, M.D. TOR.,

Professor of Gynecology and Abdominal Surgery, Woman's Medical College; Surgeon to  
St. John's Hospital, Toronto General Hospital, and St. Michael's Hospital.

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EVERY operator engaged in this field of work must pass through two or three stages of uncertainty. According to his teaching he will become an advocate of drainage, or oppose it. After he has obtained his training, as all operators should do in the practice of a preceptor, he begins to scan the histories of his cases, and to think and cogitate for himself.

After losing one or two cases in which he has used the drainage tube, he looks about him for the cause of death. Is it from infection that is already present in the abdominal cavity, or is it from infection that takes place through the drainage tube? He jots down mentally the old recognized rules adopted by many operators for the use of the drainage tube. He runs over them as follows:

First. In cases in which a large number of adhesions have been separated, and from which there is a danger of oozing subsequent to operation, use the drainage tube.

Second. In cases in which the abdominal cavity has been flooded with pus, and it has been subsequently washed out, use the drainage tube.

Third. In cases in which some of the viscera have been perforated and closed by suture, and from which a subsequent leakage may take place, use the drainage tube.

Fourth. In cases in which the peritoneal cavity is infected before operation, use the drainage tube.

Fifth. In cases in which there has been prolonged exposure of the intestines and peritoneum, and in which there is likely to be considerable serious oozing after the wound is closed, use the drainage tube.

Sixth. In all cases in which the abdominal cavity is washed out, use the drainage tube.

The operator now turns these over in his mind, and determines to stop the use of the drainage tube in many of the cases in which its use is supposed to be indicated. After the removal of a pus tube where the tube is enucleated from adhesions, or after the removal of an extra-uterine gestation where the peritoneal vessels are engorged, owing to the presence of pregnancy, and liable to ooze after the severance of adhesions, he closes the abdomen without drainage. A few cases may perhaps do well, but some cases will die, and he wonders if he could have saved them by using the drainage tube. The infection is late, the patient does well until the fifth or sixth day, and then shows signs of sapræmia, ushered in with abdominal tenderness, perhaps a chill, a rise of temperature and a rise of pulse. This happens when no drainage tube has been used to allow of the introduction of germs from the external air.

Why does it happen? Because more fluid collects than the peritoneum can deal with, and because the peritoneum has been, during the operative procedures, exposed to the air, been irritated and altered from the normal condition.

I am convinced that many of these cases that die without the use of the drainage tube would be saved by its use. This blood serum is readily infected, and the patient is in a safer condition when it is removed. It is a well-known fact that the rupture of an extra-uterine pregnancy, in which blood is poured out into the abdominal cavity, may produce a fatal peritonitis. In such cases there is no contamination of the cavity from without. Is this a septic peritonitis? If so, whence comes the sepsis? Does a non-septic peritonitis exist?

A great many arguments have been used against the use of the drainage tube. I have never seen it produce intestinal perforation. I have



seen intestinal perforation follow the enucleation of a pus tube, but the opening was not produced by the drainage tube. If general peritoneal infection is present in any great degree, the drainage tube can do no harm, as it will not increase this infection, *and it will not save life*, as it cannot relieve the condition. Forty or fifty drainage tubes would be required for this latter purpose, and even then we would perhaps omit two or three more than should be used, and, as a consequence, the case would terminate fatally.

Having gone through the different stages of uncertainty mentioned in the first part of this article, I fail to see how it is possible to do away with drainage. I am satisfied that my results were better with drainage than without, and that the convalescence was shortened. It has one great objection, namely, the development of a hernia through the drainage tube track subsequent to recovery. Herniæ will occasionally follow abdominal operations in which no drainage tube has been used.

As a detector of hæmorrhage a drainage tube should not be left *in situ* for longer than a few hours. If required for other purposes, it should be used for two or three days, or for a longer period. When required for a longer period than forty-eight hours, I leave it *in situ* for five or six days, and replace it by a small rubber tube, to prevent the collection of infected material at the bottom of the drainage-tube track. In this way the convalescence is materially aided. Unless this is done, we are liable to permit a collection of fluid that may rapidly become purulent, and discharge up through the track or down through the vagina or rectum. If the sinus is allowed to heal slowly from the bottom, this does not occur.

To sound the feelings of different operators on this subject, I wrote to several and asked for their opinions. The following are a few of the answers received :

Dr. Joseph Eastman, of Indianapolis, says regarding drainage after suprapubic hysterectomy in a pamphlet sent me : " A drainage tube enables us to pour quantities of hot water into the peritoneal cavity to warm up the intestines, which are often beginning to be distended with gas from exposure to the air. We are assured that the water will be freely discharged though the large drainage tube. I believe it is almost criminal to publish to the world that drainage can be dispensed with in suprapubic hysterectomy. While it may be dispensed with when the abdomen is only open for a short time, someone else, with less experience, leaves the chilly bowels, following a tedious operation, without being warmed up by the washout. Serum is poured out into the peritoneal cavity, the chilled peritoneal surface is not able to absorb it, and serious consequences ensue. This, I believe, to be a vital point. Any operation which uses up the strength of an operator has a probability of having a similar effect upon the patient.

Dr. W. E. B. Davis uses the small glasstube with a rubber dam and sucker. He only uses iodoform gauze for drainage in cases in which an abscess is not attached to the abdominal wall in order to shut off the general cavity. He packs with gauze around the glass tube, and often removes it in twelve hours if the discharge is not serious. He follows the glass tube with a small rubber one, and closes the end of the rubber one with a pair of forceps. It is evacuated every two or three hours, and the forceps re-applied after it has been emptied. He considers that much depends upon the condition in which the surgeon leaves the field of operation as to whether he should drain or not.

Dr. McMurtry uses a small Keith glass tube and sucker, a hard uterine syringe. He is opposed to the use of capillary drains by iodoform gauze and other substances.

Dr. Kelly drains in cases of general purulent peritonitis; in pus cases in which a portion of a suppurating sac is left adherent to intestine or pelvic walls; in cases in which there is persistent oozing from numerous capillaries; in cases in which extensive lacerations of the intestine requires suture or resection. He usually allows the drain to remain forty-eight hours in simple cases. In intestinal wounds, or where debris or portions of a cyst wall are left behind, the drainage tube is left in from three to five days; and in purulent peritonitis and local collections of pus it is not removed for from four to ten days. In the latter class of cases the sac fills up from the abdomen, and free drainage is kept up by the gauze until the granulation process is complete. In purulent peritonitis gauze is packed in in long strips, and is gradually withdrawn, usually requiring from seven to ten days for its removal. The time for the removal of the gauze depends upon its appearance. If, upon slowly withdrawing it, no odor is detected, and the gauze is comparatively dry, it is at once removed. If saturated with a grumous or purulent discharge it is only partially withdrawn.

Dr. Price considers the drainage tube of great value in abdominal and pelvic surgery. He uses the small glass tube in about all classes, except in cases of appendicitis, where he uses gauze and rubber tubes in all neglected and dirty cases. He considers the value of the drainage tube greater as his experience increases. He drains all the cases of pus in the pelvis. Following the removal of cystoma and fibroids with extensive and healthy adhesions he places drainage. He considers that the results in these cases are bad without drainage. If the toilet of the peritoneum has been carefully attended to, the convalescence is eminently more satisfactory in cases drained than in those not drained. Operators who value drainage and know how to use it rarely have septic cases. The authors of papers and books condemning the drainage tube have most to say about sepsis, bowel obstruction, and atheromatus blood vessels.



Dr. Robert T. Morris, of New York, says : " I do not use glass or rubber drainage tubes in the abdominal cavity for the reason that sloughing of the bowel is a well-known result, excepting in cases where the expert surgeon can give the tube his personal attention, and for the reason that the hydrostatic pressure of a column of fluid in the tube would prevent perfect removal of the fluid from the cavity. If a strip of gauze is used with the tube, the latter difficulty is avoided, of course ; but I accomplish more with my wick, described in the Transactions of the American Medical Association for 1891. This wick acts by capillarity like the drain, but it is surrounded by gutta-percha tissue which prevents adherence of bowel. This wick adjusts itself to curves, and is so soft that it does not cause necrosis of bowel, so far as my experience goes. I use plain sterilized gauze instead of iodoform gauze, because the latter does not absorb in such a lively way as the former. After an operation I leave the wick in place until the abundant secretions of peritoneal fluid suddenly diminish in amount; usually at the end of about thirty hours, and then, if the case is a septic one, I carry a narrow single strip of gutta-percha tissue into the place from which the wick was removed. Peroxide of hydrogen in full strength I frequently inject once or twice daily in septic cases, and withdraw the gutta-percha strip an inch or so daily.

Dr. Montgomery says : " I have not been using the glass drainage tube for the last two or three years, using the iodoform gauze or Miculicz drain in place of it. In hospital work, in crowded wards where much attention has to be given to the patients by resident physicians, this, I think, is the preferable plan of procedure, as the other drain must necessarily be an open avenue for the entrance of septic material, and it is difficult to keep a case from becoming infected."

Dr. Thomas Savage, of Birmingham, thinks that death after abdominal operations is due more to something that is personal to the operator and the details of the operation than to any other cause. He uses the drainage tube more frequently than it is used by most men, so as to be on the safe side. He is satisfied that he has seen cases do badly that he thinks would have been saved if drainage had been practised. He has never found harm to be directly attributable to drainage. He used the ordinary glass tube, open at the bottom and with holes in the sides. Sometimes he uses a tube without any holes at the side, to avoid the annoyance of extra trouble involved by omentum becoming caught in these lateral openings. He never uses tubes closed at the bottom. For the evacuation of the tube he uses a simple syringe with a piece of rubber tubing attached. He does not use iodoform gauze for draining the abdominal cavity. The average time that he leaves the tube in place is forty-eight hours. In some cases where there has been pus, or where he leaves the tube for several days (for perhaps eight or ten days), he changes it every



second day or so, and frequently leaves a piece of rubber tubing in for some time after the removal of the glass tube. With proper care he cannot think that the drainage tube can be responsible for fatalities, and is satisfied that often it is indispensable for success. He is well aware that a sinus frequently remains for a time as a consequence of its use, and that it tends to favor the development of herniæ. He finds that the perforations in the tubes are sources of annoyance, owing to the tendency the omentum has to become caught in them. He considers that the drainage tube may be removed too soon if the wound is already septic, and that this removal may take away the only chance the patient has of recovery, so that the want of the tube rather than its use may be a possible cause of death.

Dr. Manton, of Detroit, finds himself using the drainage tube more than ever ; he feels safer by so doing. He uses the drainage tube recommended by Price, as he believes the ordinary Keith tube too large. He leaves the tube in from one to four days, according to the character of the fluid removed. He has never seen any harm from leaving the tube in ; has never had a perforation of the bowel, nor a fistulous opening remaining in the abdominal wall. For emptying the tube, he uses a two-ounce syringe and a piece of rubber tubing. He used Tait's bulb sucker for a time, but was never satisfied with the power of suction of the instrument. Lately he has used an ordinary uterine syringe. He believes in the frequent emptying of the tube during the first few hours. He is not a believer in gauze for the purpose of drainage, and would not trust gauze in the tube when there is hæmorrhage. He is satisfied he has never had a case of infection from leaving the tube in for several days ; he does not believe that such a thing is possible if proper precautions are taken. He covers the drainage tube with a sponge, and leaves the sucker in a carbolic lotion after each time that it is used. In some cases he uses an iodoform gauze pad over the drainage tube. After the tube is removed he uses a pad of iodoform gauze, and tucks this over the opening at the lower angle of the wound. Occasionally he has seen the skin become irritated around the drainage-tube opening, but this has never resulted in any injury to the patient. In such cases a little peroxide of hydrogen is used, the surface is then dried, and salol applied liberally. He considers that the use of gauze in the drainage tube is an unnecessary fad.

Dr. Carstens, of Detroit, is opposed to the packing of the tube with iodoform gauze. He considers that this capillary drainage does not remove the septic germs, but removes only the watery part of the liquid exudate which contains few germs. The gauze also conceals hæmorrhage. He uses the drainage tube closed at the lower end, feeling that there is some danger of drawing the intestines up into the tube during the use of any suction apparatus. He has had cases die from sepsis even after the

use of a drainage tube. He believes it is clear that the drainage tube will not always prevent this, although he is satisfied that it never produces the sepsis. Serum and pus may collect in other parts of the abdomen and be unable to reach the drainage tube ; in such cases the use of one drainage tube will not save the patient. The drainage tube will not prevent sepsis if the septic condition is inherent in the patient, or is due to the lack of aseptic surgery or nursing.

Dr. Mann, of Buffalo, considers that the drainage tube is essential in abdominal work, though he is opposed to its indiscriminate use. He uses a hard rubber syringe with a long nozzle for the purpose of emptying the tube. He cannot conceive how the iodoform gauze can be as effective as the sucker. He removes the tube as soon as the secretion becomes reduced in quantity and light in color. He has never seen any harm from taking it out too soon, though he thinks that once or twice he has left it in longer than it was needed. He feels satisfied that he has never seen infection from the drainage tube unless the infection was from the inside before the drainage tube was placed in cases in which pus escaped from an ovarian abscess or a pyosalpinx. In two cases he has seen trouble produced in this way, and the discharge from the drainage tube has been purulent almost from the first, although all the pyogenic membrane had been removed. He uses no antiseptic fluid in the tube, but the tube is kept in a sublimate solution, and the solution is carefully shaken off it before it is put into the tube. The tube he uses is the same as that used by Price. He uses catgut as a ligature instead of silk. He is satisfied that the iodoform gauze packing in the tube is not as good as the use of the sucker. Even with the drainage tube unpacked, in one or two cases he found it disappointing as a detector of hæmorrhage. No autopsy was made on these cases, so that it is only surmise that they died from hæmorrhage.

Dr. McMurtry, in a later communication, says : " I am a great believer in drainage of the cul-de-sac of Douglas after hysterectomy. The dreamers have made a great error in trying to do away with drainage. If properly carried out it does no harm and saves many lives."

The objections to the drainage tube seem greater from a theoretical than from a practical standpoint. The theorist says that the germ-laden air is drawn down through the glass tube into the abdomen, and that this germ-laden air deposits its poison on the peritoneal surface. But the other side of the question must be looked at, namely, that in the withdrawal of the fluid there is a current produced away from the body that will wash away many of these germs. If this fluid is allowed to collect, it may soon become, in spite of every precaution, septic ; but if frequently removed it does not become septic. The most dangerous cases are those in which ascitic fluid is present at the time of operation.



The packing with gauze and with wick has been advocated by many. I have tried this method. It failed me in one case of hæmorrhage from adhesions. After the packing was removed several ounces of blood were removed by the sucker. The gauze, whether packed loosely or tightly, will not satisfactorily remove the fluid.

I use both the suction apparatus and gauze-packing, and in the intervals of drainage have the tube packed with sterilized gauze. The surrounding parts are soon shut off from a drainage tube ; adhesions form, and though fluid may drain freely for the first few hours from other portions of the peritoneum it soon ceases to come, and, as a consequence, the drainage tube drains but a small area. If, however, an abnormal quantity of serum is poured out, these adhesions do not form until the quantity of fluid poured out is diminished.

I have removed blood from the drainage tube on the second or third day after operation, after the fluid has become serous. The bleeding was evidently due to the disturbance of adhesions subsequent to hard retching. Had no drainage tube been placed a blood clot would have formed and remained in the peritoneum, and would have endangered the life of the patient. Such blood clots are not so readily absorbed by the peritoneum as we are asked to believe. I have seen one such clot well organized on the surface, and yet with a collection of pus in its interior or from the breaking down of the centre of the clot.

I have seen a patient die with the drainage tube *in situ*, and a large collection of pus in another portion of the abdomen three or four inches away from the drainage tube. This collection of pus could not be attributed to the use of the drainage tube. It was similar to an isolated original stab culture in a cultivating medium.

When a surgeon undertakes a case he must expect criticism ; he should not object to criticism so long as it is fair and open. No one feels the loss of a patient more than he does. If a patient dies and no drainage tube has been used, we are apt to think that a drainage tube would have saved the patient. If a patient dies and a drainage tube has been used, the death will be, by some, attributed to the use of the drainage tube. This but "points the old moral and adorns the old tale," "that doctors differ." Clinical results and pathological researches do not always agree. Theory and practice are sometimes widely separated from one another. Waves of thought, as unstable as many of our theories, sweep through the medical mind, and one year we are advocates of drainage, and the next year we condemn it. I have endeavored to obtain the views of other operators to compare them with my own. These may be of service to those who operate in the abdomen, and may be of some little interest to the general practitioner.



## GYNÆCOLOGY AMONG THE INSANE.\*

BY DR. HOBBS,

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UTERO-OVARIAN disease and its relations to insanity is a subject that has aroused much controversy and no small amount of bitterness in some sections of the great country south of us. Some State Boards of Control have thought fit in their wisdom to interfere in the scientific management of the insane, especially in the prosecution of operative procedure for the relief of pelvic disease in the same, and have characterized special work of this nature as "brutal and inhuman." It is very evident that those who took exception in such violent terms to a distinct advance made in the modern methods for the cure of insanity have been carried away by false theory and misplaced sympathy, and could not have had any practical experience of the undoubted benefit which, in the majority of instances, accrues from necessary surgical interference for the bettering of the condition of these "wards of the State."

Being still in the experimental stage in this matter, I am somewhat diffident about opening up a subject so extensive; but I desire to put on record the result obtained after a year's experience and observation in gynæcological work on the insane in London Asylum, and the conclusions reached as to the result of treatment of pelvic disease in insanity. That disease of those organs does produce mental alienation in many instances, I have not the slightest doubt. Exception may be taken to this opinion by putting forward the plea that derangement of other just as important organs rarely produces psychic disorders; then, why should changes in the genitalia cause this profound mental disturbance? The reason, I believe, is that the brain is intimately connected with the uterus and its appendages through the great sympathetic system, and that disturbances of the latter are reflected upon the former in pathological, just as we know they are in physiological, conditions. To illustrate this, one has but to note the marked influence that puberty has upon the female mind. The girl in the transition stages to womanhood not only develops physically, but certain mental qualities hitherto well marked in her are very much altered, and from being a rollicking tom-boy she becomes retiring,

\* Read before the London Medical Society.

modest, sedate, and shy in manner, and takes on all the characteristics that differentiate the woman from the child. Then go a step further, and witness the changes concurrent with budding maternity. The reflex disturbances of various organs, the cheerful nature becoming morose, the despondency giving way to excitability, suspicion, and hate where hitherto love dwelt, the borderland of disordered reason is approached, and the Rubicon being crossed the invasion of the domain of insanity itself is often coincident with the puerperal state. If mental changes so marked, so profound, occur as a result of the physiological changes of gestation, would we not naturally expect in many pathological conditions of these organs some alteration in the mental attitude of the sex, especially when an inherent weakness of cerebral tissue is present in the individual? It is curious to note that the majority of insane women with pelvic lesions do not complain of anything that would lead you to suspect the presence of such disease. If the same local conditions existed in her sane sister, medical advice would soon be sought for their removal or amelioration. The perversion of the intellectual faculties with their omnipresent delusions obscure their judgment, and something totally foreign to the disease is alleged as the cause of the mental derangement. Regarding causation of insanity by pelvic diseases, Regis says (page 349): "That the majority of women suffering from organic disease of the uterus fall gradually, in fact, into depression, moroseness, and hysteria; they change in their characters and become irritable to excess, sometimes even passionate and violent, and occasionally they go a degree further, and pass fully into the domain of insanity." And on page 330 the same author remarks that "most uterine affections are capable of engendering mental disease by sympathy, and it does not appear that out of the whole number any one has any special influence more than others in this regard"; and on page 351, in speaking of psychic disorders following exactly the phases of the utero-ovarian symptoms, says: "These facts, which are very curious, establish firmly the relation existing between the mental trouble and the uterine lesion and the subordination of the course of the former to the processes of the latter."

Tuke (vol. 2, page 1,244) writes that: "Uterine disorders are especially capable of determining by reflex action profound derangement of the cerebral functions."

Savage (page 71), 1884, in summing up a chapter on utero-ovarian insanity, says: "Insanity may be started either by serious uterine or ovarian disease, and the symptoms may have some direct relationship to the seat of the disease."

Clouston states, in speaking of uterine or amenorrhœal insanity, "that the regular or normal performance of the usual functions of the uterus and

ovaries is of the highest importance to the mental soundness of the female." Such, then, is a consensus of opinion of four of the leading psychologists of the age.

The accidents of the puerperium are many and varied, and they bring in their wake distress, debility, and disease. Is it any wonder, then, that women with an inherent tendency to cerebral instability, or having highly strung nervous mechanisms passing through the stages of motherhood, having their return to health retarded or prevented by subinvolution, some tear of the *via naturalis*, some inflammatory exudation, should deteriorate mentally, and, their life becoming an intolerable burden to themselves and to their friends, that they should ultimately find their way into an asylum?

Many of these cases of mental alienation are, properly speaking, purely functional, and are dependent on a lowered vitality often induced by surgical disease. The removal of the causes and building up the physical health usually promotes recovery mentally, if the treatment is carried out before definite and permanent changes take place in the brain centres and irretrievable damage is done, which would certainly follow as a sequence to the long-continued assaults of pelvic sources of irritation. But even in cases in which no mental improvement is to be looked for as a result of operative interference with the utero-ovarian organs this is still justifiable, as being often essential to the patient's general well-being. It removes a source of irritation that constantly worries her, and which often leads up to maniacal attacks or fits of depression, and, except when death intervenes, it invariably improves the physical health, placing the unfortunate patient on a better basis, and making her existence at least tolerable, even if she remains a permanent resident in the institution in which she is confined. Those patients do not suffer, as some would lead us to believe, during the operation. They are completely anæsthetized, and afterwards, when reparation is taking place, recovery is usually uneventful, not even a single degree of elevation of temperature occurring to vary convalescence. In some few cases after-treatment is hard to carry out, owing to unreasoning obstinacy, or an excitable temperament pertaining to the patient's mental state. Are, then, operative measures tending to relieve this class of patient to be stigmatized "brutal and inhuman"? Are methods so rational as outlined in this paper, for the improvement of either the physical or mental health, or both, of these unfortunates, to be condemned by theorists who perch themselves on a pinnacle and dictate as to what is right and what is wrong, that which is brutal and that which is not, who arrogate the right to say, "Thus far shalt thou go, and no farther," but forward their Rip-van-Winkle ideas, and allow misery, discomfort, and disease to hold their sway, and the light of reason to become hopelessly lost for the want of an outstretched hand and the timely removal of diseased tissues?



Procrastination in these cases is deplorable. Every female admitted, whose history in any way points to defect or malposition, new growths, or unhealthy local conditions of any kind, should be systematically and carefully examined, if necessary, under anæsthesia, and a correct diagnosis of the lesion made, and, if needed, treatment not only medical, but surgical, be commenced without delay. Then, after lapse of sufficient time, your patient showing no sign of return to mental health in spite of marked physical gain, you can, at least, comfort yourself with the reflection that you have given the patient her chance, and you can rest content with a clear conscience, and the knowledge of having, at least, done all that was possible in the case.

The analysis of the nineteen cases I now place before you present no new features gynæcologically. The operations performed follow a well-beaten track. I wish, however, to draw your attention to the marked results which followed in these cases from work done upon the uterus itself. These uterine operations included curettage, divulsion, trachelorrhaphy, and amputation of cervix for condition of subinvolution, endometritis, and lacerated cystic and hypertrophied cervixes. Of these there were nine, and, according to the mental state of the patients, they were classified as follows: Two cases of acute mania, two recurrent mania, one acute puerperal mania, and four of chronic mania. Physically everyone improved, the gain in weight in some being as much as twenty-five pounds. Out of the whole number, six, or sixty-six per cent., were discharged into the custody of their friends recovered. Two out of the remaining three have been discharged on probation, and recent letters state that they are doing well, and but one of the nine remains unimproved mentally, and is still a member of our resident population. Eight, then, out of the nine are now discharged, representing nearly eighty-nine per cent. of the uterine operations. Some will say that they would have recovered in an ordinary way. I say, no—not all, as you will observe that four of these were cases of chronic mania, one of fourteen years' standing, one of five years, one of three years, and one of two years. The one of the three years' standing is the one solitary remainder of this company.

Two operations were done for malposition of uterus by the method devised by Alexander of shortening the round ligaments. One was a case of puerperal mania of two years' standing, who subsequently improved very much physically, is now much less troublesome than formerly, and has become a useful worker. The other was a case of acute mania of seven months' standing; she improved mentally, but not enough physically when she was taken away by her friends, against our advice. She remained home three months, was brought back in a state of starvation, and died shortly afterwards of exhaustion of mania.

Vaginal hysterectomy for complete procidentia uteri was carried out in two patients. One was a case of chronic mania, passing into dementia of twenty-four years' standing. Was kept in bed latterly a good part of her time owing to the prolapsus. Although no mental improvement was expected in this case, the physical health was much benefited thereby.

The second was a case of acute mania of six months' duration, whose procidentia included a prolapse of the interior wall of the vagina, causing micturition to be painful and difficult. From the day of the operation she improved steadily in every way, and is once more attending to her household duties, being completely restored to health mentally.

Another case of acute senile mania, whose condition was rendered miserable by a complete procidentia uteri, being too old for an hysterectomy, the uterus was replaced by Freund's operation with buried silkworm-gut sutures, and is still well retained. Her general health is much improved as a result of this simple, yet effective, procedure.

For removal of two ovarian cysts a different method was adopted in each patient; one by the abdominal incision, and the other per vaginam. The abdominal case progressed favorably up to the twelfth day, when double bacillary pneumonia set in, and carried off the patient in twenty-four hours. An epidemic of la grippe prevailed at the time, a number of asylum patients being laid up with it. Post mortem showed the stump contracted and the pedicle ligature completely encapsuled by lymph, and the pelvis free from fluid of any kind. There was also good union of the abdominal wound. She was a case of chronic mania of nine years' standing, and was sixty-four years old at the time of the operation.

The other case of ovarian cyst was removed by an opening in the cul-de-sac made through the vagina. She recovered rapidly without a solitary bad symptom. Her improvement, especially in bodily health, was very marked, and she is now well enough mentally to be at home. Her mental disease was that of acute mania.

Adherent tubes and ovaries, with accompanying menorrhagia and dysmenorrhœa, called for surgical interference in a patient who had chronic mania of three years' standing, and who at times was excited, violent, and destructive. The abdominal route was followed and recovery was uneventful. {Although seven months have elapsed this patient's conduct has been exemplary, and her mental and bodily health much improved.

Cœliotomy and removal of a solid mesenteric tumor in another case of mania was followed by death from exhaustion on the fifth day, this patient being acutely maniacal for two or three days subsequent to the operation.

The nineteenth and last on this list was a case of chronic melancholia,

with delusions of all kinds of imaginary disease in various organs. Being very uncomfortable from a large circle of hæmorrhoids, and having a torn perinæum with an accompanying rectocele, the operation of Allingham and Tait, respectively, relieved the symptoms locally, but were not followed by any change in her mental condition.

Before concluding this paper I desire to express my grateful appreciation of the kindness shown me by my superintendent, Dr. Bucke, in placing at my disposal every facility for carrying on the work, and my thanks are also due to Drs. Meek, Moore, Eccles, and Stevenson for the valuable assistance rendered me from time to time in these operations.



## OPTICO-CILIARY NEUROTOMY, WITH PRESENTATION OF THE PATIENT. \*

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A BOY named Charles Oxford, æt. 12, came under my care September, 1895, suffering from a severe injury to the right eye. While crossing the Atlantic he was pitched about in his berth, and his right eye came heavily in contact with the nail of his thumb. As a result there was a large penetrating wound of the cornea with prolapse of iris. I removed the entangled iris. The eye did very well for a time, but then began to show unfavorable signs, and, fearing sympathetic inflammation, I advised optico-ciliary neurotomy. The operation was performed as follows: I pulled the eyeball well down and out, and divided the conjunctiva over the internal rectus and also the tendon of that muscle. After freely dividing the subconjunctival tissue a strabismus hook was introduced so as to catch the optic nerve. I now passed in a pair of scissors and slid their points along the nerve towards the apex of the orbit, and divided the optic nerve far back. After this the eyeball was carefully turned about, that its posterior surface with the severed nerve attached, one inch in length, pointed out between the eyelids. The optic nerve was now divided close to the sclerotic, and also the ciliary nerves and adjacent tissue were carefully cut away, leaving the sclerotic quite bare. The eyeball was now returned to its proper position, and the divided tendon reunited. The blood, which flows freely, and is sometimes very troublesome, must be allowed free exit; for if this be not attended it passes into the tissue of the orbit, and thus so fills the optical cavity that the eyeball is unable to be properly replaced, and hence the eyelids cannot cover the cornea, which, of course, may be the cause of great after trouble. However, there is, as a rule, difficulty in bringing the eyelids to meet, and often sustained pressure with the fingers has to be kept up for a short time before complete closure of the eyelids is brought about. Now a pad and bandage were applied. Upon this I at once placed an ice-bag, which was kept in

\* Read before the Toronto Medical Society, April 23, 1896.

position uninterruptedly ; and I do so always as long as the patient can bear it, or till the eyeball has resumed its proper position in the orbit, The eyeball has slightly lessened in size, which in this case is due to the process of degeneration that was present in the eye at the time of operation; but otherwise there is no further alteration. There was total anæsthesia of the cornea after the operation, which is also the present condition, and is, of course, very satisfactory. The left eye has been quite quiet ever since the operation. In cases where sympathetic inflammation is feared all communication between the eyes should be as fully cut off as possible, which may be done in several ways, as enucleation, evisceration, and the operation now under notice. Optico-ciliary neurotomy preserves the eyeball, and in this way gives a much better effect than any artificial eye. This operation is not approved of by some oculists on account of the reaction, which is said by them to be excessive and even dangerous to life, and also that the certainty of cutting off communication with the other eye is not as great. However, I think with proper precautions and the proper performance of the operation that the results are satisfactory. The reaction in this case did not give much uneasiness to the patient, and was not severe.

## CYCLING FOR WOMEN.

By P. E. DOOLITTLE, M.D.,

Ex-President Canadian Wheelman's Association ; President Toronto Inter-Club Association.

VERILY this is the age of the New Woman. She shines forth in the pages of the comic illustrated journals, arrayed in coat and knickerbockers, smoking cigarettes, and attempting or doing everything that is unmanly in man. She has claimed an equal footing with her stronger brother in all the pursuits of life where brute force is not a requisite to success, and in the varied fields of pastime and labor which she has entered the question naturally arises in the medical mind, What will be the effect of these changes in her habits and occupation upon her peculiar physical condition as a woman? The scope of this article will simply allow of a consideration of the adaptability of cycling as a pastime, and as a therapeutic means, when indulged in by women.

Apart from her organs of generation, she stands on the same footing as does her brother in the enjoyment of this pastime, which is now recognized by even the most conservative of non-cycling members of the profession as being one of the best forms of out-of-door recreation and gymnastics. To a woman whose uterus and ovaries are in a normal state, and whose perinæum is intact, there has been no doubt as to the fitness of this form of exercise; but to her with the procidentia, the unstitched perinæum, the retroflexion, the antelexion, the irritated ovary, the pus tube, the endometritis, the cervicitis, and the other ills which hover about the pelvis, like vultures about a battlefield, to prey upon the mental as well as the physical well-being of her sex, the question now becomes an important one. In nearly all these conditions we tell her she must not run the sewing-machine, nor hang curtains, nor ride on horseback, nor in any shaky conveyance, nor do anything that will tend to increase the vascular tension which already exists during her monthly siege; and in most of these instances we are right, too, as in the instance of the sewing-machine, where the action of the lower extremities causes an increased circulation, with an increased pressure on the veins of the pelvis, which latter, being stationary and free from activity, becomes a dumping ground for the excess of blood, which its organs, in turn, have not the energy to relieve themselves of.



When the ladies' "safety" made its first appearance in the days of the old cushion tire, I was consulted by letter by an old cycling friend, whose wife had taken the craze to ride a wheel, which her family physician told her under no circumstances should she do. The statements made were to the effect that some fifteen months previously she had a seven-months' miscarriage, with a laceration of the perinæum, followed by inflammation and falling of the womb, that she had been a semi-invalid ever since, some months better and some months worse, but always suffering greatly with her catamenia. I advised him strongly against her taking to the wheel, on the ground that anything that would be injured by horseback riding, or running the sewing-machine, would be affected similarly by the use of the bicycle. In the following autumn I met him in the city at the exhibition, when he hailed me with the information that he and his wife were taking a little cycling tour together. He informed me in the same breath that the bicycle had almost been the death of his wife, according to our predictions, in the first fortnight, as on one of their first runs she nearly ran off the bank into the canal ; but her back aches were gone, and so were her headaches, as was also the occupation of the family physician, as far as she was concerned, and that condition has remained to the present day, judging from the answer I received from a medical man of the same place, of whom I asked the question, "Who was the medical attendant of the S——'s?" His answer was, "They have none, as neither Mr. nor Mrs. S—— is ever sick." Now here was a case that was manifestly unsuited for horseback riding, or running the sewing-machine, or any of the category of the proscribed, and yet this patient regained perfect health, as far as subjective symptoms went, through taking up this fad, and her case is only one of very many similar ones I have since seen, many of whom have taken to the wheel on my recommendation. I hesitated at first in recommending such patients to use the bicycle, but on careful consideration I was forced to the conclusion that, with reasonable exercise of care, it was in many instances a curative process in those cases not attended with pus formation, and not in a condition of acute inflammation.

We all know the close affinity between the nervous system and the uterine organs ; the melancholia and the depression following many of these conditions have often been the bugbear in our gynæcological practice. We have ordered the patient abroad, and she has travelled with a constant mental solicitude towards the uterus, constant thinking of which, like the ghost in "Hamlet," would not down. We have ordered her to take gentle walking exercise, and she has gone forth with every step a drag, as though each foot travelled were an extra drop in the dose of a bitter potion. On the bicycle, however, it is very different, as her whole mental faculties have been called into earnest but not fatiguing activity in

properly guiding and managing her steed, and one great essential in the curative properties of exercise, that of pleasant mental occupation, has been gained. The exertion of pedalling has set up a quickened heart's action, more blood has been pumped into the lungs, deeper breaths have been taken, more oxygen absorbed, and that not from the dust-laden and often germ-laden atmosphere of the gymnasium, but pure oxygen along shady lanes and pleasant drives of the country, with a bit of ozone blown up from the ocean, which has caused a better quality of health-restoring blood to course through the arteries so long carrying only a sluggish stream. But not only is the heart's action increased, but all the muscles of the body are more or less brought into activity. There is no reclining chair to support the spine, and leave the muscles lax ; but, with head and body erect, and spinal and abdominal muscles in a state of active tension, the venous blood poured up from the rapidly moving extremities is quickly hurried past the pelvic region to be repurified in the lungs. Thus are the pelvic organs surrounded by active muscular tissue hurrying and carrying away venous engorgement. The arteries are pumping more and purer blood into them, and the venous circulation is so quickened that this blood is rapidly carried away. Hence a better tissue metamorphosis goes on, and the subinvolted uterus regains its normal dimensions, the weakened ligaments regain their tone as they lose their excessive load, and the loss of the perineal floor becomes a matter of much less importance.

Another effect of cycling is the massage which the abdominal and pelvic organs receive while wheeling, still further hastening circulation, and removing the results of old standing inflammations and exudates. A woman who formerly felt as though her insides were falling out when standing at a shop counter or being fitted by her dressmaker, with the increased muscular strength finds herself much better able to perform her ordinary duties in these regards. The question of injuries, perineal pressure, erotomania, and like subjects I will not stop to discuss, as the first is entirely a question of having a properly fitting saddle, and the second is the most unlikely thing to occur with a person taking brisk exercise, with the healthy mental occupation which comes to the wheelwoman when on a spin. As to the effect of extensive cycling on labor, the woman who has used her wheel up to the fifth or sixth month of gestation, and thereafter leads an active life, comes to her accouchement with strong heart's action and strong muscles, and, although there may be a more resisting perinæum, yet the muscular power to overcome that is so much greater that my experience has been that their labors are more satisfactory, and they much more quickly regain their normal strength. There are other questions that might properly come under the influence of cycling for women, as relating to her association with the opposite sex, and the

moral effect of brisk out-of-door exercise, creating, as it does, more muscular than erotic vigor. For we know that an indolent life is more fruitful of sexual evils than is a busy, vigorous one.

In cases of pus tubes, of acute inflammation, or immediately following inflammation with exudations, in fact, in any condition in which pelvic massage would be contraindicated, the use of the bicycle should be proscribed ; but, given a case of subacute metritis, or subinvolution, to say nothing of the pseudo-hysterical cases of uterine origin, put the patient on a bicycle, give her healthy, cheerful companionship, plenty of country riding, and wholesome country fare, and you may lay aside your curette and your tampon, as they will not be wanted. Another condition in which great benefit has been derived to many of my patients is in the case of the nervous woman whose social duties and pleasures often turn night into day, and make her life a busier one than that of her poor shop-girl sister, who, under the nervous strain develops frequent headaches, with a tendency to insomnia, and too frequently learns to dose herself with the coal-tar products, to her injury. The bicycle takes her entirely out of her artificial atmosphere, fills her lungs to fullest expansion, and rapidly dissipates the unpleasant symptoms complained of. I am of the opinion that it will not be long until a foremost place in our armamentarium will be granted to the bicycle as a therapeutic means whose usefulness is second to no drug in the wide range of cases in which it is beneficial. The New Woman, indeed, is with us, and the bicycle is making her new in the best sense of that much-abused term ; new, because she has a better physical development ; new, because she has discovered a new means of recreation, that enables her to roam the countryside and come in touch with nature as have no other means before offered her ; new, because she has been able to assimilate her tastes and her pleasures with the best of those of her brothers. Pedalling on in her health and her beauty, with her bright, ringing laugh, and her suffused but smiling countenance, we step aside as she whirls by, and salute her—the New Woman.



## Selected Articles.

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### ASEPTIC SURGERY IN GERMANY.\*

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BY GABRIEL W. S. FARMER, M.A., M.B., M.CH. OXON. ; F.R.C.S.,  
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IN dealing with the subject of aseptic surgery in Germany, I wish to bring before you some of the methods now in vogue in the Continental surgical *Kliniks* which I have myself visited, and also to communicate in a short *résumé* the last researches of the late Dr. C. Schimmelbusch, of Berlin. . . . I shall first deal with general points in what may be termed the toilet of surgery, and afterwards give a short account of the most recent researches on the treatment of infected wounds.

The name of Lister stands very high in Germany—higher, I think, than in England—because his original ideas have been productive of a more general adoption of surgical cleanliness than in this country. It is no rare thing to see surgeons in England operating in old coats put aside for the purpose, comparable to the old coats which we keep in a dissecting room. In England I have seen surgeons using nail brushes which lie about anywhere, which are used for washing away pus or even *fæces* from one's hands, are supposed to render one's nails and fingers aseptic, are rarely, if ever, sterilized ; and this is more than twenty years since that great pioneer, Lister, started a new era in the history of surgery. One sees blankets brought straight from the bed of the patient to the operating table, remaining there throughout the operation, and several other things at which a German surgeon would smile and think : “ A prophet is not without honor save in his own country.” These surgical misdemeanors are all covered by the fact that the operator dips his hands into a solution of carbolic acid or perchloride of mercury for a variable time according to his patience or impatience ; washes out the wound with some chemical which partially or entirely kills the tissues with which it comes in contact ;

\* A paper read before the Oxford Medical Society.

applies a so-called antiseptic dressing, charmingly colored, which pleases the patient, is very expensive, and often full of infective organisms.

Lister's original methods, which aimed at the destruction of putrefactive organisms of air, and the prevention of their access to the wound, have, of course, fallen into entire disuse in Germany, as also in this country. The steam kettle has done its work and must now be regarded as a relic of bygone days, holding a place similar to Stevenson's "Rocket" in the history of the locomotive. But though the original Listerism is dead, it has been productive of enormous results, and it is in Germany that these results have been chiefly worked out, and the antiseptic of earlier days converted into the asepsis of to-day. The cause of this is not far to seek. The *science* of pathological bacteriology is mainly the outcome of German work. The discovery of pyogenic and a great number of other pathogenic organisms, their classification, isolation, etc., is the achievement of Robert Koch and his pupils. The present aseptic principle of surgery is to prevent the access of pathogenic organisms, which reach the wound chiefly by contact, and not through the air, and is arrived at by processes which convert everything that comes into contact with the wound germ-free,

I will now pass on to a few main points on the surgical toilet as employed in the *Kliniken* of Berlin, under Bergmann, Sonnenburg, and the late v. Bardeleben; Strassburg, under Madelung; Bonn, under Trendelenburg, and more recently Schede; with regard to Professor Kocher's *Klinik* in Bern I shall also make a few references, as he differs somewhat from the others.

#### I. PREPARATION OF THE PATIENT.

Previous to operation the patient has generally two baths, one the day before, and the second upon the day of operation. Soap and water are used, and the operation area is shaved; for example, a leg or an arm is always shaved before amputation—not only the so-called hairy regions, but all regions that come within the area of operations are dealt with, which, I maintain, is a very important point. In the case of operations about the face, neck, or upper chest regions, the head is bandaged with aseptic gauze, brought straight from the steam sterilizer with which every hospital is equipped. The septic blanket does not, as a rule, play the interesting part upon the operating table as in this country. After leaving the bath, the patient is either placed in sterilized sheets upon a bed, or given a linen suit, resembling "pyjamas," which, though it at times looks dirty, is sterilized. The patient, after being placed on the table of operation, undergoes the final cleansing in public, so that every student can see it. The wound area is thoroughly scrubbed with soft soap and water, with the aid of a *sterilized* nail brush. In Strassburg, under Professor Madelung, wood shavings are used for this purpose, which are burned after each

operation. The soap and water are wiped off with sterilized *dry* towels, and the area is then washed with—first, alcohol; secondly, ether; and, lastly, with sublimate 1-1000. The skin is dried with towels, or, more frequently, sterilized gauze, and the sheets are removed and replaced by fresh ones.

## II. PREPARATION OF SURGEON AND ASSISTANTS.

The coats are taken off in a room apart from the theatre, where a preliminary washing of hands and arms, cutting and cleansing of nails, etc., take place. Surgeon, with assistants, then put on long linen coats freshly sterilized, the sleeves of which reach to about midway between the elbow and shoulder. The final washing takes place in the theatre *before the students*.

(a) About a minute with soap and water. Kocher always washes his hands and arms in a *constant stream* of water, and rinses his mouth out with a solution of carbolic acid. The hands are then dried with sterilized towels.

(b) The hands and arms are then washed in 80 per cent. alcohol with sterilized gauze. In many of the *Kliniks* ether is insisted upon after the alcohol.

(c) Lastly, the hands and arms are thoroughly scrubbed with sublimate 1-2000.

The nail brushes are kept in special dishes, immersed in sublimate 1-1000, are boiled frequently, and, consequently, often removed.

Everyone engaged in the operation, including nurse and instrument superintendent, follows this rule. Any neglect would probably result in dismissal.

## III. OPERATION ITSELF.

All instruments, having been boiled for five minutes in a dilute solution of soda, are either placed in one per cent. carbolate of soda, or, after immersion in cold sterilized water to hasten cooling, simply placed on a gauze tray. Marine sponges are seldom used, perfectly *dry* sterilized gauze being substituted. [Schede still uses marine sponges.]

From the beginning of the operation to the end *no antiseptic touches the wound*.

Hæmorrhage being stopped, the wound is dried with sterilized gauze and sutured.

The dressing used is simple dry gauze sterilized by steam.

Bandages are all sterilized before application, and, lastly, over all is placed a starch bandage to prevent shifting of the dressing.

In a considerable number of operation cases, the dressing consists of a few layers of iodoform gauze and collodion, no bandage being applied at



all. I saw this frequently done in hernia cases by Kocher, and in laparotomies by Bergmann and Schede, with admirable results.

As a rule, the dressings are not touched for ten days to a fortnight.

Drainage is generally carried out by strips of sterilized iodoform gauze, india-rubber being seldom used. Kocher uses glass tubes which have been previously boiled. Infected wounds are never united immediately; they are plugged for some days with iodoform gauze, and when the discharge is found free from micro-organisms the healthy granulating surfaces are united by secondary suture. The use of secondary suture is greatly advocated in Germany, owing chiefly to Professor v. Bergmann. It resulted from his experience in the Russo-Turkish war.

Professor Madelung, of Strassburg, informed me that the use of the secondary suture would not only have cut short the course of illness of thousands of wounded in the great war of 1870-1871, but also saved many lives which were lost owing to exhaustion produced by the drain on the system in cases of large granulating wounds.

With regard to the preparation of sutures and ligatures, sterilization of catheters, etc., I shall say nothing, as time does not allow. Dr. Schimmelbusch, in his work on aseptic treatment, gives an admirable account of all the methods now in vogue.

I have been frequently asked the following question: "Are the results in Germany any better than ours with all their appliances and detail?" My answer is: "With regard to life and death statistics, the difference is *practically* nil; abroad they attempt operations which, I have no hesitation in saying, would be abandoned as hopeless in this country; but results must also be considered from the point of view of the rate of healing, and percentage of cases healing by primary intention. In this respect I positively maintain that, as far as I have seen, fewer wounds suppurate, and convalescence is shorter under the rigorous aseptic treatment abroad than with us."

I shall now pass on to the second part of my paper,\* dealing with the disinfection of septic wounds. The washing out of infected wounds with antiseptic fluids has been extensively carried out by surgeons with the object of ridding the wound of infective organisms, these fluids acting either by washing away the germs or rendering them harmless. The supporters of energetic wound disinfection even at the present day in this country irrigate an operation wound with streams of carbolic acid or sublimate solution, thinking that in this way they destroy micro-organisms that may have found access to the wound. Exact proof of the assumed efficacy, however, is failing, and the germ-killing influence of antiseptic

\* *Vide* "Ueber Disinfection septisch inficirter Wunden," von Dr. C. Schimmelbusch. Aus der Kgl. Chirurgischen Universitäts.—Klinik des Professor E. v. Bergmann, Berlin, 1895.

wound irrigation does not rest upon experimental evidence for its truth. The idea to disinfect wounds arose at a time when one knew nothing of an accurate nature concerning either the causes of infection or the means to destroy them ; but the practice has still survived, although scientific knowledge presented itself, and doubt as to the possibility of complete wound disinfection became on the increase. For many wounds it is evident that an energetic use of carbolic or sublimate cannot effect any real disinfection. Wounds infected with spore-forming germs, or even with those of a resistance equal to tubercle bacilli, are not to be destroyed by 2 per cent. carbolic solution or 1-1000 sublimate, since anthrax and tetanus spores can live for weeks in 2 per cent. carbolic. Against the possibility of destroying even pus germs by such means grave doubt exists. The destruction of staphylococcus pyogenes aureus in bouillon does not take place in 1 per cent. sublimate under ten minutes—rather long for irrigation. In wounds, again, these cocci present extra difficulties with regard to their destruction. They lie often unattackable in fat or blood, and afford conditions very unfavorable to the influence of antiseptics—much more unfavorable than the human skin, for instance, which itself presents extreme difficulties.

Schimmelbusch made a large number of observations upon granulating wounds which contained the organism of green pus, viz., bacillus pyocyaneus. The skin surrounding the wound was thoroughly cleansed and disinfected. The wound itself was energetically washed with 2 per cent. carbolic, 1 per cent. sublimate, or 1 per cent. silver nitrate, and then covered with an absolutely aseptic dressing. In spite of this, green coloration and smell appeared after a few days, a proof that bacillus pyocyaneus was not killed.

The question may be put, however, "Does not antiseptic irrigation modify the action and growth of micro-organisms?" A large number of possibilities can be theoretically constructed, viz., diminution in number of germs, decrease in virulence, accumulation of phagocytes, etc. We will see, however, how they stand experimental tests. Surgeons who, true to their conviction, carry out wound disinfection will not acknowledge very often any doubts as to the efficacy of wound irrigation. The favorable results of antiseptic wound treatment appear sufficient proof for the good of irrigation. It must not be forgotten, however, that antiseptic irrigation was introduced at the same time as other quite new methods of wound treatment, and it is not always easy to gauge the value of each individual factor of such a combination, and the most tenacious upholder of carbolic, sublimate, and other irrigations cannot close his eyes to the fact that surgeons who use no irrigation at all arrive at the same results as those who wash out their wounds.

Schimmelbusch and Schmidt have performed a series of experiments on mice, which, I think, have sufficient importance with regard to this subject to justify my bringing them before your notice.

#### EXPERIMENT I.

Four white mice were fixed in a cage and a superficial wound about 1 c.m. long and 1.5 mm. broad was made upon their tails. Upon these wounds anthrax from an agar-culture was inoculated.

*Mouse A.* Immediately after inoculation the wound was irrigated with 3 per cent. carbolic lotion. Death ensued after 24 hours. P.M. Anthrax.

*Mouse B.* Immediate irrigation with sublimate 1-1000. Death after 26 hours. P.M. Anthrax.

*Mouse C.* Immediate irrigation with sublimate 1-1000. Death after 30 hours. P.M. Anthrax.

*Mouse D.* No disinfection. Death after 36 hours. P.M. Anthrax.

#### EXPERIMENT II.

Three white mice, fixed and wounded as above, and inoculated with anthrax.

*A.* The wound immediately after was rubbed with gauze soaked in 3 per cent. carbolic acid. Death after 36 hours. P.M. Anthrax.

*B.* The wound was rubbed with sublimate 1-1000. Death after 36 hours. P.M. Anthrax.

*C.* No disinfection. Death after 36 hours. P.M. Anthrax.

In these experiments the culture contained spores, and one might argue that naturally the carbolic and sublimate lotions used would be inefficient in checking the disease. It is noteworthy, however, that disinfection was not followed by any modification. In their next series of experiments, however, they obtained the same results. Spore-free anthrax was used, viz., spleen pulp taken from a mouse which had just died of anthrax. In all, thirty-seven mice were inoculated, and the wounds treated with different antiseptics of varying strengths. Creolin, iodoform, ether, chloride of zinc, had no effect. Pure carbolic, fuming nitric acid, absolute alcohol, were also tried with the same result. Therefore, after inoculating a white mouse with anthrax, one cannot save its life by anti-septic irrigation, either using weak antiseptic solutions or the most powerful.

Streptococci from purulent affections of man are, as a rule, pathogenic in rabbits, and often become very virulent when transmitted from rabbit to rabbit; so that a trace of blood or lymph from an animal which has just died from streptococcus sepsis inoculated upon a fresh wound will cause the death of a rabbit in a few days. In these cases of severe wound



infection there is scarcely any inflammatory trouble at the seat of the wound ; but streptococci are found in large quantities in the blood, especially that taken from the heart. With this highly infective streptococcus sepsis Schimmelbusch inoculated small surface wounds of rabbits' ears, and then tried to disinfect them ; after which he covered the wounds with sterilized gauze and collodion.

## EXPERIMENT III.

Six rabbits were inoculated with a trace of blood taken from an animal which had just died of streptococcus sepsis upon the inner surface of the right ear.

- A. Control animal. Death after 36 hours. Streptococci in blood.
- B. Control animal. Death after 60 hours. Streptococci in blood.
- C. Immediately after the inoculation the wound was irrigated with sublimate lotion 1-1000 for 10 minutes. Death after 48 hours. Streptococci in blood.
- D. The same procedure as in the case of C. Death after 80 hours. Streptococci in blood.
- E. Immediately after the operation the wound was washed out with 5 per cent. carbolic acid solution. Death after 20 hours. Streptococci in blood.
- F. The same procedure as in the case of E. Death after 60 hours. Streptococci in blood.

A further series of experiments of the same kind were performed, which were followed by similar results.

Now I think these researches of great value, for they tend to show that antiseptics have no power of attacking the micro-organisms in wounds. These micro-organisms are rapidly absorbed and removed from the surface of the wound to the deeper strata. As early as 1873, the French observer, M. Colin,\* performed a series of experiments on rabbits with anthrax to investigate the rate of absorption of "putrefactive matter," and more recently Nissen,† in Bramann's *Klinik*, carried out similar researches on a more scientific plan. Based upon the same plan as the experiments of these observers, Schimmelbusch made a series of observations as to the rapidity with which micro-organisms are absorbed from a surface wound, and obtained some striking results.

In the wars of 1866 and 1870-1 Volkmann came to the conclusion that the practice of probing wounds on the battlefield was highly to be deprecated, and that instead an "occlusive bandage" should be immediately

\* "Nouvelles recherches sur l'action des matières putride et sur le septicémie." *Bulletin de l'Académie médecine*, 1873.

† *Deutsche Medicinische Wochenschrift*, 1891.

applied. Cases so dealt with invariably stood a better chance than those that had been meddled with before reaching the field hospital. Bergmann, in the Russo-Turkish war, took fifteen of the worst cases of gunshot wounds of the knee, in which not only the knee-joint was opened, but in which there was also splintering of bones, and treated them as follows :

The surrounding skin was thoroughly cleansed, and an aseptic dressing applied. The limb was then kept at rest by means of a plaster of Paris bandage—no syringing or probing was resorted to—fourteen out of the fifteen made a rapid recovery.

At the present day every soldier in Germany is equipped with a sterilized dressing, sealed up in an impervious envelope. In the case of this dressing, I should mention that it is impregnated with sublimate, its preparation, however, being under Government supervision.

Time does not allow me to bring forward certain points with regard to treatment of abscess, and, therefore, I shall conclude by pointing out the lessons I have learnt from the continental methods of asepsis :

1. If one attempts to be anti- or aseptic, one must observe every small detail in the handling of wounds—cleansing one's hands and the skin of the patient is useless if a ligature is soiled in being passed from the hands of a nurse to the surgeon. In this country, where blankets are 'so frequently placed on operating tables, I have several times seen surgeons, in taking a ligature or suture from the nurse, trail the same over the blanket—of course, unintentionally, and without seeing.
2. In boiling water we have a perfect means for rendering instruments, ligatures, and dressings germ free.
3. That antiseptics cannot claim all that has been attributed to them. Dressings impregnated with chemicals, left lying about in cupboards, are frequently rich in germs. Their preparation often entails soiling, and to be quite trustworthy must be made under strictest supervision, and then placed in some impermeable envelope. Under such conditions these impregnated dressings are useful in military surgery. In hospital surgery they ought to hold a very minor position to the simple steam-sterilized dressings, which are absolutely unirritating.
4. Lastly, that the value of washing out every wound with some lotion has been overestimated. It is very rarely resorted to in Germany, where results with regard to primary healing are certainly better than I have seen elsewhere.—*The Medical Magazine.*

## Clinical Notes.

### ROTO-LATERAL CURVATURE OF SPINE.—INFANTILE PARALYSIS.—DOUBLE DISLOCATION OF PATELLA.

By B. E. McKENZIE, B.A., M.D.,

TORONTO.

THE following three cases are probably worthy of separate record as clinical cases.

#### CASE I. ROTO-LATERAL CURVATURE OF SPINE.

Sept. 4, 1895. L. R., female, 14 years old. Family health good. She has always been a fairly healthy girl. Some years ago it was noticed that the one hip seemed to project farther than the other, and that the shoulder blades were not symmetrical. The exact time when these conditions were first noticed is uncertain. Has had no prolonged illness. The photographs shown (Fig. 1) show at this time (Sept. 4) the amount of deformity. The cut, which shows the patient in a stooping position, brings out well the angular deformity of the ribs, and is an indication of the amount of rotation of the vertebræ. The cuts shown (Fig. 2) are taken three months subsequently, and show better than any word description could do the amount of improvement which had occurred in three months. The treatment adopted was that which I have described in previous articles, namely, by means of suspension and the lateral girdle to force the spine and ribs into an improved position, and the daily systematic development of the trunk and its muscles, and the contained viscera. Such a case as this one here described ought to continue treatment similar to this for at least a period of six months. Those who have had any considerable experience in the treatment of deformities of the trunk will recognize the difficulties there are in the way of rectification, and will be exceedingly guarded as to giving a prognosis which implies a cure. In case of lateral curvature where there is much rotation, I have never allowed myself to expect anything that could be considered an approach to complete rectification of the deformity. Within the last two years, however, I have seen at least four cases where there was a very close approximation to a complete restoration



of the normal attitude. Although this case shown is one of very marked deformity and a great amount of rotation, yet, judging from the degree of correction attained in three months' treatment, one might reasonably expect that had the treatment been continued we would have been able to accomplish something approaching very closely to the normal condition of the trunk. In these cases it is important to add that the girl gave a very intelligent and hearty co-operation, and proved in this important respect a very docile patient.

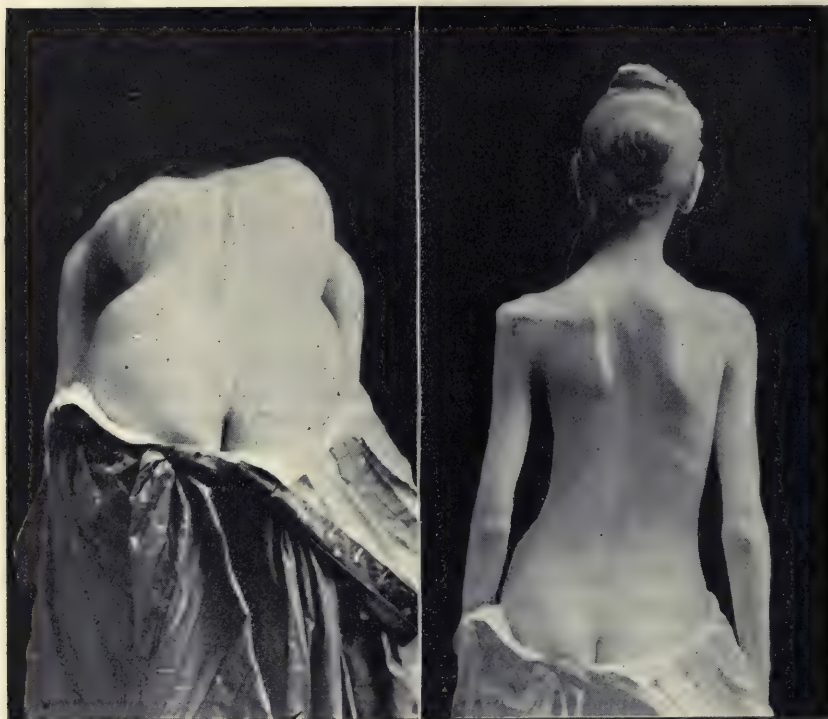


FIG. 1.

## CASE 2. INFANTILE PARALYSIS.

Jan. 24, 1896. D. T., male, 11 years old, is a well-nourished, bright, active boy, whom I treated about four years ago for right talipes equino varus. The result obtained is an excellent one. Although the leg has developed satisfactorily and presents a moderately good calf, yet it is considerably smaller than the left, and is one-half inch shorter. In spite of this inequality he walked almost without a perceptible limp, and was an active boy and fleet runner.

In September last he went away from home with his mother for a visit.

On a Sunday he complained of headache. On Monday he had headache and vomiting. Was kept in bed during Tuesday and Wednesday, and on Thursday, when he returned home, had to be carried from the carriage to the house, as he was unable to use the lower extremities. He says himself that he could move the thighs, but could not move parts below knees. Was confined to bed for about two months.

In November he began to walk, and has continued to improve until the present. He is unable to extend the right leg at the knee. There is very little power of flexion at the same joint. The disability in the left

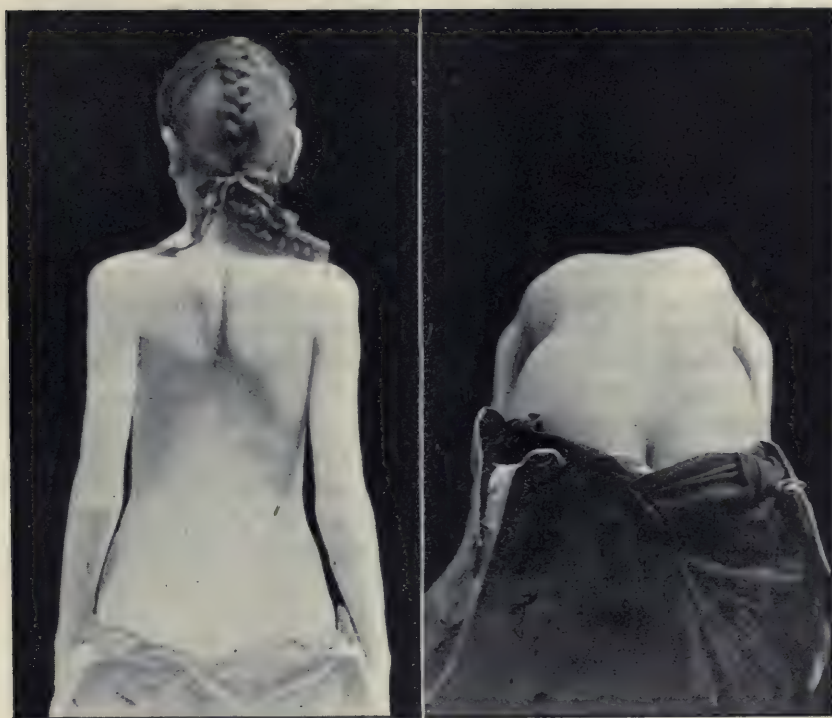


FIG. 2.

leg is not so marked in either extension or flexion. The power of movement is reduced perhaps to one-half at the hip-joint on both sides, the right being more disabled than the left. In walking he has a limp, dropping perceptibly to the left side, and simulating somewhat a case of hip disease. His general attitude, however, appears much more like that of Pott's disease. Careful examination easily excludes the presence of these affections. In standing it is noticed that the abdominal contents protrude and hang down loosely at the lower portion of the abdomen. When lying

down upon his back he is unable to rise without assisting himself much by the arms. He cannot get up a step of ordinary height with the right foot. In many of his movements during examination he resembles a case of pseudo-hypertrophic paralysis, so much so, in fact, that in consultation that diagnosis was suggested. At no time has the presence of pain been characteristic of his condition. When trying to rise from a recumbent position upon the back, the muscles of the abdomen are found incapable of contraction. Considering the history of the case, its continued improvement and the electrical responses, there is no doubt that the case is one of anterior polio-myelitis.

### CASE 3. DOUBLE DISLOCATION OF PATELLA.

November, 1895. M. H., female, 14 years old, is a large, well-nourished girl, who walks with an exceedingly awkward gait and has an idiotic expression. Both father and mother are dead, and it is impossible to get a reliable family or personal history. It is learned, however, that she has two sisters and a brother in the Asylum for Idiots at Orillia. The imperfection of walking cannot readily be assigned to any definite cause as she is watched moving about. Upon flexion at the knee joints it is noticed that both patellæ become dislocated outward, the right considerably more than the left. It passes outward to lie upon the lower part of the outer condyle of the femur, while the left patella occupies a position on the anterior and outer aspect. This movement does not appear to be painful, and both patella are readily replaced when the leg is again extended. It was proposed to remove a section from the fibrous structures and capsule at the inner side of the joint, for the purpose of holding the patella from becoming dislocated outward. The majority of the staff at the Hospital for Sick Children were opposed to the operation, and nothing has been done except that she is at present under treatment by electricity and massage.



# Progress of Medicine.

## MEDICINE

IN CHARGE OF

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AND

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### GONORRHOEAL RHEUMATISM IN INFANCY.

Hanshalter (*Arch. Cliniques de Bordeaux*, No. 11, 1895, p. 405) reports a case in an infant 28 days old. The child was suffering from purulent ophthalmia, and twenty-two days after its appearance swelling began in the left wrist joint, quickly followed by affection of the right knee joint. The sero-pus withdrawn from the latter joint was found on examination to contain the gonococcus. The articulations returned to their normal state in two days, the ocular affection having meanwhile destroyed the corneæ in both eyes. The writer points out that these cases are decidedly rare, only twenty-seven having been hitherto published. In the newborn it almost always follows on purulent ophthalmia, as in the case recounted. In older children it often arises similarly, but also from a vulvo-vaginitis or urethritis, which is rare in the newborn. Very occasionally it arises from a gonorrhoeal stomatitis contracted at birth. The affection is usually mild, giving rise to inconspicuous symptoms, and perfectly recovered from. It supervenes, in newborn infants, within three weeks of the commencement of the purulent ophthalmia, and affects only one, or at most two or three, joints. There does not appear to be any relation between the intensity of the eye-affection and the occurrence of arthritis. One case only of death is reported, from meningitis following a concomitant otitis media. Usually the general state is good, and pyrexia absent.

### PRIMARY SARCOMA OF THE PLEURA.

It is a serious matter to announce the diagnosis of this disease, and yet absolute certainty is difficult to acquire. Guinea pigs inoculated with

the fluid withdrawn from the pleura will determine whether it is a case of tuberculous pleurisy, which is often terminated by recovery. Another point of assistance in diagnosis is the absence of febrile conditions ; sometimes there is hypothermia. The almost immediate reproduction of the effusion after the puncture is another characteristic symptom, as also the compression and the absence of marked modifications after puncture. As a consequence of the pressure in the thorax, some cases present a turgescence of the veins of the neck, arm, and face, or an oedematous appearance of that half of the thorax. Others experience a difficulty in swallowing, and others show a dilatation of the pupil on that side. The pain is also characteristic, diffused throughout the thorax, with increase on local pressure, and extending into the shoulder and arm. It is, besides, more or less continuous. Palpation is also a most important guide in diagnosing, as several cases on record presented marked protuberances in the thoracic walls. The fluid withdrawn varies so much in different cases that it is not so much of an assistance as might be expected. The above points are culled from a long and analytic treatise on this subject in the *Progrès Médical*, January 4 and 18.

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#### A CARDIAC CURIOSITY.

The case about to be described is, perhaps, more interesting as a curiosity than as a contribution to medical literature, but the fact that a murmur of such intensity should occur in a subject whose actual cardiac disease causes so few inconvenient symptoms is sufficient excuse for the few notes here appended. The patient, a bright and intelligent school girl, aged fifteen years, belongs to a family many members of which suffer either from phthisis or cardiac disease. Her personal history is good. She has never suffered from any serious ailment, and has always enjoyed fair health. The cardiac mischief causes no other symptom than the fact that she easily gets "out of breath." The heart is not enlarged or dilated, there is a good first sound, followed immediately by a murmur and a low second sound. The murmur is mitral, and this is the interesting feature of the case, for it can be heard when the patient is fully dressed at a distance of twelve feet or more. It can also be heard when, with the chest exposed, she is placed three feet away from a closed door, and the listener is at the same distance on the other side of the hall. As might be expected, the murmur varies somewhat in intensity from day to day, but it is only very rarely that it cannot be heard a foot away from the chest without the stethoscope. We believe this to be unique.—*J. Reginald Fuller, M.B., B.S. Durh., M.R.C.S. Eng., and F. R. Gibbs, M.R.C.S. Eng., L.R.C.P. Lond., in Brit. Med. Journ.*

# THERAPEUTICS

IN CHARGE OF

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Physician to the Home for Incurables and House of Providence.

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## FOR DANDRUFF.

A medical practitioner, himself subject to dandruff, writes in the *Louisville Medical Monthly* that, having tried many means for relief, among which were various alcoholic solutions of castor oil, and washing the scalp with solutions of borax and carbonate of potash (which latter, although effectual for the relief of dandruff, seemed to impair the vitality of the hair and cause it to become very sensibly thinner), he finally tried a preparation of an ounce of the flour of sulphur in a quart of water as follows, with the happiest result. The sulphur was repeatedly agitated in the water during intervals of a few hours, and the clear liquid then poured off, with which the head was saturated every morning. In a few weeks every trace of dandruff had disappeared, and the hair became soft and glossy. After discontinuing the treatment for eighteen months there has been no return of the disease.

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## RATIONAL TREATMENT OF ABORTION.

Dr. Benicke has just published a comprehensive paper on this subject based on a large number of personal observations. He claims very good results from the treatment, which is strictly in accordance with modern views of asepsis. He believes in being "meddlesome" at the proper time. We append a *résumé* of his conclusions taken from the *Allgemeine medicinische Central Zeitung*, December 21, 1895:

(1) In cases of severe hæmorrhage and febrile disturbances occurring in the first two months, the entire contents of the uterus should be removed. The finger or the curette, or both, may be used for this purpose. The calibre of the cervix will determine the choice of method.



(2) In the third month, if the os uteri is not patent, tampons are at first employed. Anæsthesia is necessary for the radical removal of the product of conception. The placenta may have to be removed by means of the curette. The fœtus can generally be best taken away by slowly introducing the finger and using that alone.

(3) In the fourth month the fœtus must be removed without the aid of the curette, although remnants of placental structure and membranes may call for the use of that instrument.

(4) Even after spontaneous abortion the uterine cavity is to be explored, and all remnants promptly removed by means of the curette.

(5) Only very free hæmorrhage calls for the employment of the tampons. They are to be introduced into the vagina only. Uterine tampons are to be avoided as much as possible.

These views are not particularly novel, nor very radical, but they bear examination as embodying the results of large and conservative practice by a modern accoucheur.—*New York Medical Record*.

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#### SERUM IN TUBERCULOSIS AND SYPHILIS.

Serum of an animal inoculated with tuberculin always contains toxic principles. The milk of an animal inoculated with tuberculin is innocuous. Normal serum retards the progress of tuberculosis. Microbic serum can prevent its development. The serum of a dog, inoculated eight days before with blood from a syphilitic, was inoculated in a woman suffering from nervous symptoms (tabetic). She had had syphilis twenty years before. After the injections the symptoms disappeared. In a woman with syphilis of eighteen months standing, who presented extensive ulcerations uninfluenced by specific treatment, seven injections of immunized dog serum reduced the ulcers to one-fifth their previous size.—*Richet, Soc. de Biol.*

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#### A METHOD OF WASHING ECZEMA.

A corollary of the extensively-held modern view of the probable parasitic etiology of eczema, says Dr. Leslie Phillips, in the *British Medical Journal*, is the necessity for cleanliness as an element of treatment, while the long-known injurious influence of water on eczematous surfaces raises a difficulty. The use of olive oil as a substitute for water for the purpose of cleansing the skin, and, indeed, of removing the grime of manufacturing trades, is commonly known, but its value is not sufficiently recognized. Although I have long advised patients with eczema to use this method, it is only recently that I have been impressed with its adaptability for continued use, and of its value when persevered in. The following case is an instance in point :

A lady, aged 48, was attacked with acute erythematopapular eczema of the face, which continued to spread rapidly until the application of water, either for washing or in lotion, was suspended. When washing with oil was adopted the disorder rapidly subsided, and so satisfied is she with the general effect on the skin that the patient has for two months not allowed water to touch her face. The method employed is to smear the skin well with a pledget of cotton-wool saturated in olive oil. The oil is then removed by gently rubbing the surface with a corner of a dry soft towel covered with toilet oatmeal.

Pustular eczema, I find, generally requires washing at intervals with soap and water.

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#### VINEGAR AS AN ANTIDOTE TO CARBOLIC ACID.

According to Prof. Carleton, vinegar is an antidote to carbolic acid. Applied to the skin or mucous membrane burnt by carbolic, it causes a rapid disappearance of the characteristic whiteness, as well as the anæsthesia produced by carbolic, and it also prevents the formation of a slough. It also neutralizes any carbolic that may have been introduced into the stomach. The first thing, therefore, to do in cases where carbolic has been swallowed is to make the patient drink some vinegar mixed with equal parts of water, and then to wash out the stomach.—*La Semaine Médicale*.

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#### AMYL NITRITE IN PNEUMONIA.

Hayem (*Sem. Méd.*) describes the treatment of 77 cases of pneumonia by inhalations of amyl nitrite. It is generally agreed that this drug should be used with great caution, 4 or 6 minims having hitherto been considered as a large dose. Hayem's experiences show that a much larger quantity may be safely used. For a single inhalation he gives 60, 80, or even 100 minims. These are administered 15 minims at a time, on a compress held 2 or 3 centimetres from the patient's mouth, the whole inhalation lasting from three to five minutes. In ordinary cases one inhalation a day suffices; in severe cases two, given morning and evening, are better. No accident ascribable to this treatment has followed. The inhalations are continued throughout the illness, and for one or two days after the crisis has occurred. The drug does not seem to influence the duration of the disease or the temperature; the effect produced is purely local, consisting of a diminution, more or less marked, in the dyspnoea, in a modification of the sputum, which becomes less viscous, and in a diminution of the stethoscopic sounds. It does not seem to affect the virulence of the pneumococci; its action seems to be exercised entirely on the pulmonary circula-

tion, which is probably subject to a sudden flushing with blood, analogous to that occurring in the skin, which hastens the return of the blood by the pulmonary channels, and promotes the absorption of the exudation. In eighteen months 77 patients were treated in this way, the deaths numbering 16. A large number of these were bad subjects, being drinkers or confirmed drunkards. Neurotic subjects bear the treatment badly owing to the fears they entertain. It is highly important that during the inhalation the patient should be in the recumbent position.—*Brit. Med. Jour.*

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#### THYROID IN GOITRE.

Dr. Fletcher Ingals, of Chicago, has made a careful study of fifty cases of goitre treated with thyroid. The conclusion is that this remedy is quite as effective when administered internally as when given hypodermically.—*Journal of Practical Medicine.*

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#### GONORRHEA.

A good injection is a one per cent. solution of creosote in borated decoction of witch hazel. Employ four times daily. It will destroy the poison in a few hours.—*Clinique.*

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#### THE ACIDS AS STIMULANTS TO THE PANCREATIC SECRETION.

The researches of Dolnisky, based on those of Becker, show that the ingestion of a solution of carbonic acid has a stimulating effect on the pancreas, provoking an abundant flow of the secretion. The experiments were carried out on dogs, in whom a pancreatic fistula had been created. The animals were fed on bread and milk. When the flow of the secretion became nearly constant, 250 c.c. of acid solution, mixed with the food or drink and heated to 17 or 18 degrees C., were injected.

Hydrochloric acid was tried first. This produced an extremely abundant flow. A solution ten times weaker than the normal acid of the stomach was sufficient. Phosphoric, acetic, lactic acids all produce the same effects, but in a less degree. Alkaline substances or solutions produce no increase in the flow.—*Courier Med.*

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#### GONORRHEA.

R.—Perchloride of mercury.....1 part.  
 Antipyrin.....100 parts.  
 Distilled water.....10,000 parts.

The injection should be used four times a day and retained as long as possible. The addition of antipyrin prevents smarting.—*Vatier.*



## THEOBROMINE.

Dr. Huchard said that for the last two years he had employed theobromine as a diuretic in cardiac and renal affections, and considered it to be much superior in this respect to digitalis and caffeine. His mode of prescribing it was to give the first day six powders of ten grains each, the second day eight powders, and the third day ten. This dose, which he considered a maximum, he continued for three more days. Sometimes, in order to prolong the diuretic effect, he gave, the day following, one-fiftieth of a grain of digitaline. Theobromine is not toxic, nor does it injure the renal epithelium; it is especially useful in interstitial nephritis, and those heart diseases complicated with kidney lesions.—*Medical Press*.

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## TINCTURE OF CANTHARIDÉS AND ALBUMINURIA.

In an article on this subject, published in the *Gazette Hebdomadaire de Médecine et de Chirurgie* for October 26, M. Du Cazal remarks that at a recent meeting of the Académie de Médecine M. Lancereaux stated, in a communication on albuminuria from a therapeutic point of view, that when uræmia has ceased we must seek to modify the altered tissues, and that the medication necessarily varies according to whether it is the connective and vascular tissues, or the epithelial tissues, that are involved—in the first case potassium iodide was to be preferred, in the second case cantharides had given him the best results. Two cases of epithelial nephritis with albuminuria and considerable anasarca had been cured in less than three months under the influence of cantharides; while in the case of a patient who had considerable anasarca, and passed only 15½ ounces of urine in twenty-four hours, the renal secretion became abundant within two days after the ingestion of twelve drops of tincture of cantharides, and in eight days the anasarca had disappeared.

The question under discussion, says the author, is certainly one of great importance. Acute catarrhal nephritis often results in death from the uræmic and congestive symptoms it causes, in the presence of which the physician is too often powerless.

Since M. Lancereaux's communication, Du Cazal has had occasion to apply the treatment in a number of cases of nephritis, and in four cases out of five has obtained complete recovery in a surprisingly brief period, the fifth case showing considerable amelioration only. Three of these cases were acute nephritis, one consecutive to pneumonia that had been treated by cold water; the others were of scarlatinous origin.

It was his first trial of the treatment, and the rapidity and persistency of the recovery were a great surprise to him. In the third case, one of acute catarrhal nephritis of influenzal origin, the drug caused rapid dimi-

nition and then complete disappearance of albumin, although the pathological condition had a manifest tendency to become chronic. Notwithstanding the failure to obtain recovery in the fifth case, says M. Du Cazal, the results ascertained in the others absolutely confirm the account of those communicated by M. Lancereaux to the Académie.

M. Laboullene and M. Olivier have recalled the fact that the treatment by tincture of cantharides was recommended by Grisolle and by Raver, but had been forgotten until M. Lancereaux drew the attention of the profession to it, thereby, in the author's opinion, rendering a great service to physicians, and, above all, to patients.—*Therapeutic Gazette*.

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#### SALICYLIC SOAP PLASTER FOR ECZEMA SCLEROSUM.

R.—Emplastr. saponat. liquefact.,  $2\frac{1}{2}$  oz.  
Oleo olivar., 5 dr.  
Acid. salical., 22 gr.

The plaster is spread and cut into strips, which are firmly adapted to the affected parts, and left in position for several days. Its great advantage is that it is not necessary to change it frequently.

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#### MYDRIATICS.

Atropine is no longer used abroad as a mydriatic; scopolin has entirely supplanted it, because it does not cause glaucoma, like the former.

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#### MENTHOL IN VOMITING OF PREGNANCY.

Dr. Weill states that every form of vomiting during gestation can be relieved by a 20 per cent. solution of menthol in olive oil; dose, ten drops on sugar whenever nausea appears.—*The Practitioner*.

# OBSTETRICS

IN CHARGE OF

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We find the following prescriptions in the *Medical Record* :

## LUCORRHŒA OF PREGNANCY.

A five per cent. solution of lactic acid.—*Dorland*.

## CONSTIPATION OF PREGNANCY.

R. Aloini..... gr.  $\frac{1}{2}$   
Ext. bellad..... gr.  $\frac{1}{4}$   
Cascar. sag..... gr.  $\frac{1}{2}$   
Strychn. sulph..... gr.  $\frac{1}{6}$   
—*Hirst*.

## LABOR.

R. Quinæ sulphat..... ʒ ij.  
Acid. sulphuric aromat., q.s. ut ft. sol.  
Syr. zingiberis..... aa fl. ʒ i.  
Aquæ..... ad fl. ʒ ij.

M. Sig. A tablespoonful at once, and afterward a dessertspoonful  
every four hours. (In atony of the uterus.)—*Ringer*.

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## THE TREATMENT OF PUERPERAL CONVULSIONS.

In a paper published in the *Medical Age*, February 10, Dr. T. K. Holmes, of Chatham, summarizes his methods in the treatment of puerperal convulsions as follows: A restricted diet, abundance of water, hydragogue cathartics, and sweating by artificial heat—and in some cases by sudorifics—are necessary in all cases and in all stages; chloroform is the most reliable agent for controlling the fits, and should always be used



for this purpose ; chloral and bromide of potassium are useful, especially where convulsions are frequent and coma not profound ; pilocarpine is a strong sudorific, but is inadmissible when the circulation is weak or when the lungs are loaded with mucus ; bleeding is of use in plethoric cases ; morphine is dangerous when coma is a marked symptom, but is useful in other cases ; prompt delivery should always be practised, labor being induced by artificial means if necessary.

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*The American Journal of Obstetrics* publishes in the March number a valuable paper by Dr. W. T. Lusk, which was read before the Section of Gynæcology of the College of Physicians of Philadelphia. In it the author emphasizes the disposition in many, who adapt Listerism to obstetrical practice, to ignore subjects of vital importance, such as, (1) method of germ invasion in septic diseases ; (2) the natural resistance offered by the tissues attacked ; and (3) the causes of symptoms and of the fatal ending. The vagina not being a closed canal, and with the widespread prevalence of septic germs, it has been argued that the potential factors for the generation of puerperal fever exist in every woman, and, therefore, the application of germicides to the vagina in all labors is called for. Ahlfeld reports 3,000 cases of confinement at the Marburg Maternity which had received the preventive treatment, with eighteen deaths, of which three were from eclampsia, and four resulting from resort to Cæsarean section. Tarnier, with the same methods, reports 7,427 cases, and twenty deaths from sepsis ; the Emergency Hospital, New York, 351 cases, with four deaths from sepsis. On the other hand, the normal vaginal secretion furnishes a soil hostile to all forms of cell growth, and Döderlein has discovered a bacillus which, by intensifying the acid reaction of the vaginal secretion, renders the latter especially unfavorable to the multiplication of the streptococcus, the dreaded enemy of the child-bearing woman. The cervical mucous plug protects against the invasion of vaginal micro-organisms. The leucocytes, according to Walther's observations, form a line of defence between the attacking germs below and the clear part of the mucous plug above, and thus, in natural labors, the protection of the uterine cavity is complete. The downward current of the amniotic fluid, the descent of the child, the associated leucocytosis and increase of vaginal secretion, and the passage of the placenta, all serve in clearing and protecting the tract from infection. When nature provides such strong defence, it is questionable whether antiseptic douching is commendable. Leopold reports 3,392 cases in which injections were used, with seven deaths, and 2,014, without douching, with three deaths from infection. M. Ermann had no death from sepsis in 1,200 cases without douching, and Garri Gues 1,059 cases, with four deaths. A careful examination of mortality statistics shows

these to be slightly more favorable when the routine practice of douching has been abandoned, but the difference is not important, and extreme ground on either side should not be taken. Internal examinations should be as infrequent as possible, keeping in view the ideal of obstetric art, to conduct labor without internal manipulations. The obstetrician should take as much pains to disinfect the hands and instruments as the surgeon. In thirty-five per cent. of cases where the thermometer shows elevation of temperature, the disturbing causes are external to the genital organs. There is wide difference in symptoms due to streptococcus infection. The streptococcus is subject to numerous external influences, and the susceptibility of the patient varies quite as much as the pathogenic activity of the micro-organism. The earlier the rise of temperature the more severe, as a rule, are the symptoms, and fatal cases are most commonly those in which the streptococcus has been introduced to the uterine cavity during labor. Staphylococcus infection is usually of mild type. Both staphylococci and streptococci may occupy the uterine cavity together, but the latter usually drive out the former. The bacterium coli appears best able to sustain itself in the presence of the streptococcus, and the gonococci are driven away by invading streptococci. Undoubtedly the removal by curette and douche of materials which feed putrefactive germs is indicated, but when streptococcus infection has gained full headway the curette and douche are of no avail. In a great proportion of cases the process is, and remains, a localized one, and the indiscriminate use of the curette must be deprecated, as it sometimes destroys the barrier formed by the leucocytes, and opens the door to the enemy.

## SURGERY

IN CHARGE OF

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### A NEW FORM OF INCONTINENCE OF URINE.

The *Revue internationale de médecine et de chirurgie* for March 10 contains an abstract of an article from the *Annales des maladies des organes génito-urinaires*, in which the author, M. Abarran, calls attention to a new form of incontinence of urine in young girls, which is due to a defect in the development of the internal genital organs. He relates the case of a patient who had been troubled with incontinence for six years. It had appeared when menstruation was established, and all treatment had failed to bring about a cure. The patient was thin, badly developed, and nervous. The external genital organs were normal, but an examination revealed the absence of the anterior cul-de-sac of the vagina; the vaginal wall was tense, and it was inserted directly on the anterior lip of the cervix uteri; the posterior cul-de-sac was well developed; the uterus was small and conoid; the left ovary was in its proper place, but the right ovary was nearer than normal to the anterior vaginal wall. The bladder and the urethra were normal, but a malformation of the internal genital organs existed which consisted of an abnormal adhesion of the posterior wall of the bladder to the anterior surface of the uterus. This explained the cause of the incontinence. When the patient lay down the uterus became displaced backward, and dragged with it the posterior wall of the bladder, which adhered to its anterior surface; when the patient stood up the uterus became displaced forward and pressed heavily on the posterior wall of the bladder, thus causing the vesico-urethral sphincter to remain open.

An incision was made in the anterior wall of the vagina, extending from the neck of the uterus almost to the urethra. The uterus was detached from the bladder, and the interutero-vesical space was packed



with iodoform gauze. At the end of fifteen days the faradic current was applied to the neck of the uterus three times. This treatment, says the author, resulted in a complete cure.—*New York Medical Journal*.

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#### FRACTURES OF THE ELBOW JOINT.

(1) All fractures of the lower end of the humerus, once in position, are held in place if the forearm is kept acutely flexed. (2) Such flexion can be used without danger to the limb or undue distress to the patient. (3) The only force required being one of flexion; no rigid apparatus is needed, it being sufficient to strap the forearm to the arm. One of the strong points of this treatment, therefore, is its perfect simplicity. (4) The points to emphasize are: Be sure to replace fragments as flexion is made, taking great care that the internal condyle is as low as possible and the joint not widened by effusion between fragments. If the condyle is kept down, no gunstock deformity can occur. (5) In cases thus far treated the amount of motion gained has been slightly greater than after ordinary methods. The amount of deformity has been very much less.—*Smith*.

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#### THE OBJECTS AND LIMITS OF OPERATIONS FOR CANCER.

(Will be concluded next month.)

## GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

EDMUND E. KING, M.D. Tor., L.R.C.P. Lond.,

Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables; Pathologist, Toronto General Hospital.

### TREATMENT OF PROSTATITIS WITH HOT WATER AND POTASSIUM PERMANGANATE.

Abeille, of Nantes, has been very successful with an original treatment of gonorrhœal prostatitis, which he describes as follows in the *Revue clin. d'And. et de Gyn.* After securing anæsthesia of the urethra with cocaine, he introduces a Nèlaton sound No. 12, and connects it with a reservoir containing potassium permanganate at 1 per 4,000 or 1 per 2,000, according to the ability of the urethra to support it, at a temperature of 35 to 38 degrees C. The liquid passes through the sound up to the sphincter and flows out between it and the walls of the canal. When the penile portion is thus well irrigated, the sound is inserted through the sphincter, without interrupting the flow of the liquid, and the bladder receives the same cleansing. If there is a strong desire to urinate, the urine can pass out through the sound. With this treatment Abeille has aborted many a case of prostatitis which would have suppurated if left to itself.—*Revue Internat. de Méd. et de Chir.*, March 10.

### EUROPHEN IN VENEREAL DISEASES.

Kopp (*Aertztlicher Central. Anzeiger*, September 20, 1895) has employed this remedy in nineteen cases of soft sore, nine of inguinal bubo, and seven of mucous tubercles in the genito-crural and anal regions. Previous investigators having found it useless in gonorrhœa; it was not again tried in this complaint. In five of the cases of soft sore the ulcer was scraped out, under local ether anæsthesia, the bleeding stopped by sublimate compresses, and the surface then thickly powdered with europphen 1 part, boric acid 3 parts. This formed a crust, which did not separate, but was dusted with the powder twice daily. The ulcers healed under this crust in six to eleven days. The remaining fourteen cases were cleaned up with 1 in 1,000 sublimate, and then treated with europphen, pure or mixed with boric acid powder (for economy) in varying proportions, the weakest being one in six. The average time required for heal-

ing was seventeen days, about the same as with iodoform. No instant effects were observed in any case, but the remedy did not prevent the formation of buboes. Europhen was also found very useful in two buboes which had burst and become converted by infection into large venereal ulcers. These healed in twenty days under the use of europhen 1 in 3, with boracic acid. A similar mixture, of the strength of 1 in 6, was employed with success in the treatment of 7 other simple buboes after scraping. Europhen-boracic powder 1 in 4 aided the healing of mucous tubercles, the patient being under mercurial treatment. The condylomata skinned over in three to ten days. Kopp considers that europhen is less irritating than any other odorless antiseptic powder; that it is specially indicated in the treatment of venereal ulcers after scraping; and that it is useful, but not irreplaceable, in the treatment of other specific and non-specific ulcerations.

#### TECHNIQUE OF SUPRAPUBIC PUNCTURE.

Von Dittel (*Wein klin. Woch.*) has tapped the bladder above the pubes considerably more than 100 times. He washes it out by means of a two-way cannula, and then introduces a Jacques catheter (No. 8), the caoutchouc of which has the property of swelling up, and so effectually preventing any escape of urine. The catheter must be changed at least once in eight days; its stopper is to be removed whenever the necessity for micturition is felt—once, at least, every four or five hours. When introduced in this way the foreign body seems much less likely to induce vesical catarrh than if inserted *per vias naturales*; this is probably due to the absence of the bacteria of the urethra. The puncture has a great tendency to spontaneous closure, which is a manifest advantage when the indications for its employment have been obviated. Von Dittel has always operated in the mid line, but of late Schepf has conceived the ingenious notion of a lateral puncture, whereby the rectus or pyramidalis is used as a sphincter, and the permanent catheter done away with. One disadvantage of this method is that the puncture requires keeping open by the nightly passage of a sound or drain. Furthermore, Von Dittel has shown that the depth of the peritoneal pouches inclosed by the urachus, obliterated hypogastric arteries, and the epigastric arteries, is very variable, so that in some cases but a very small portion of the anterior wall of the bladder is free from peritoneum. In such instances lateral puncture may lead to perforative peritonitis, and of this he records one fatal case. He has, therefore, abandoned Schopf's procedure, and reverted to his own former method. He has found, however, that the poorness in vessels of the linea alba sometimes leads to necrotic changes round the puncture, and, therefore, now adopts the plan, particularly in old people, of operating just at the edge of this tendon.—*British Medical Journal*.



# PATHOLOGY AND BACTERIOLOGY

IN CHARGE OF

**JOHN CAVEN, BA., M.D., L.R.C.P. Lond.,**

Professor of Pathology, University of Toronto and Ontario Veterinary College ; Pathologist  
to Toronto General Hospital and Home for Incurables ;

AND

**JOHN J. MACKENZIE, B.A.,**

Bacteriologist to the Provincial Board of Health ;

ASSISTED BY

**JOHN A. AMYOT, M.B. Tor.,**

Demonstrator of Pathology, University of To-  
ronto ; Assistant Surgeon to St. Michael's  
Hospital ; Physician to House of  
Providence.

**HIBBERT HILL, M.B.,**

Bacteriological Laboratory of the University  
Medical Faculty.

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## TUBERCLE BACILLI IN MILK.

This author has made two sets of experiments on animals with the object of finding whether the mixed milk, as found in the markets, contains tubercle bacilli. In the first set sixty animals were used, forty being inoculated in the peritoneum with two to two and a half cubic centimetres each, and the remaining twenty being used as control animals and inoculated with sterilized milk. Young, healthy guinea-pigs of about three hundred and fifty grammes weight were used. Of the forty, three died of a high grade of tuberculosis, and eight died within eight or ten hours after injection. From the organs of the latter a pathogenic bacterium was isolated.

The second series of experiments was very interesting. By testing centrifugalized milk, the author found that many bacteria were not carried by their specific gravity to the bottom of the vessel, but remained entangled in the layer of cream. In accordance with this evidence he inoculated animals with one to one and a half cubic centimetres of a mixture of cream and sediment. The results were as follows : Thirty-eight per cent. of all animals injected were tuberculous, and thirty per cent. were very much emaciated and died of a high grade of tuberculosis. Of nine control animals one died of peritonitis.

Pearlsucht is seldom seen in animals living on the meadows, but in the so-called "zuckervieh"—the stall-fed cattle—a high grade of tuberculosis is often seen. The author thinks that the sterilizing of milk and sanitary

measures in regard to butter and milk are only palliative, and that the root of the evil must be attacked by testing with tuberculin and destroying all infected animals.—*Kuno Obermuller, M.D., in Hygienische Mundschau, October 1, 1895—International Medical Magazine.*

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#### THE EXAMINATION OF SPUTUM FOR TUBERCLE BACILLI.

Spengler (*Deutsche med. Woch.*, 1895, No. 15) recommends the employment of pancreatin for the digestion of sputum preparatory to its examination for tubercle bacilli. The procedure is as follows: Equal parts of sputum and lukewarm alkaline water are thoroughly mixed with from two to fifteen grains of pancreatin, and are allowed to digest at the body temperature for from two to three hours, when a few drops of strong carbolic acid are added to prevent putrefaction. A sediment quickly forms. The supernatant fluid is poured off, fresh alkaline water is added, and a further digestion in the incubator is allowed. The sediment after this second digestion is smaller. It is collected on filter-paper, and is examined in the usual way for the bacillus tuberculosis.

By this method the sediment from a day's sputum is so small, as a rule, that a few cover-glass preparations only are needed for its thorough examination. There is no impairment of the staining qualities of the bacilli, and Spengler has found this a very quick and reliable method of examination when the tubercle bacilli are present in small numbers. It is, of course, unnecessary when they are abundant.—*American Journal of the Medical Sciences, October, 1895.*

# HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

**WILLIAM OLDRIGHT, M.A., M.D. Tor.,**

Professor of Hygiene in the University of Toronto ; Surgeon to St. Michael's Hospital ;

AND

**E. HERBERT ADAMS, M.D., D.D.S.**

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## SCHOOLHOUSE SANITATION IN BOSTON.

Mayor Quincy has appointed Professor Francis W. Chandler, of the Institute of Technology, Frederick Tudor, an expert in sanitation, and Professor S. Homer Woodbridge, also of "Tech.," as an expert committee to examine into the present condition of the schoolhouses in respect to ventilation and sanitation.

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## MORTALITY FROM DIPHTHERIA SINCE THE INTRODUCTION OF THE SERUM.

Counting the cases of mortality from diphtheria, in France, during the first semester of the years 1888 to 1894, Mr. H. Monod found the average to be 2,627. During the first semester of 1895 it was only 904 deaths, or a diminution of 65.6 per cent. If we consider that diphtheria is more common in the country than in the towns, we may figure 15,000 the number of lives saved in France by the use of the serum.—*Le Progrés Medical*.

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## DIPHTHERIA.

The following resolution was adopted by the State Board of Indiana at its last meeting :

Whereas, it has been fully demonstrated by physicians, both in private and hospital practice, that antitoxin is the best means for the cure and prevention of the much-dreaded contagious disease, diphtheria ;

Resolved, That the Indiana State Board of Health, recognizing its value, does hereby indorse and advise its use by the local health officers throughout the state, both for prevention, cure, and control of epidemics of said disease.



ANTI-TOXIN continues to be the accepted remedy in the treatment of diphtheria by the leading physicians, and the too exclusive reliance of the sanitary authorities everywhere, notwithstanding Mr. Lennox Brown's published statements and Dr. John B. Hamilton's echo of its dangers, to which allusion was made in our January number. Dr. Hermann M. Biggs, pathologist of the Health Department of New York, to whom belongs the credit of introducing the remedy in this country, on a recent visit to Chicago, in an interview with the health commissioner of that city, took occasion to say (*Chicago Tribune*, January 8):

"Taking all cases into account—those treated early and late—the mortality in diphtheria cases in New York for four weeks ending December 22nd, 1895, was 16.6 per cent. For the same period in 1894 the mortality was 24.5 per cent., and in 1893 it was 36.6 per cent.

"Conditions in Chicago are much more favorable for the treatment of the disease than in New York. We have a great tenement-house population, more than 800 to the acre, a denser population than at any other place in the world. Light and ventilation are bad, and it is among these people cases run until the fourth and fifth day before notification is received at the health department, and then it is often too late. The health department supplies all institutions and poor patients with the serum free of charge. There are fifty stations for its distribution. There are three grades of serum, the first and second for use in mild and first-stage cases, and the third for severe cases. One year ago these cost, according to grade, \$4.25, \$8.50, and \$12.50 a phial or dose. The cost now is 50 cents, \$1, and \$1.50.

"There is not a single pathologist or bacteriologist of note in the world to-day who opposes the use of antitoxin."

Diphtheria, nevertheless, at the time of this writing, is the most universally prevalent of all infectious diseases, and is causing more deaths than any other disease except consumption.—*Sanitarian*.

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#### THE LONDON DEATH RATE.

The number of deaths in London last year was 85,138, equal to an annual rate of 19.4 per 1,000, the population being about 4,392,000.

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#### TUBERCULOSIS IN PARIS.

The proportion of deaths from tuberculosis in Paris is 490 per 100,000 inhabitants. In the Department of the Seine, whose population, including that of Paris, numbers over three million, the average mortality from tuberculosis, during the period comprised between 1889 and 1893, was 14,565.

## Editorials.

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### THE MEDICAL CURRICULUM.

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IN our last issue we referred to a conference which had been held in Toronto between representatives of certain medical colleges, when certain matters pertaining to the medical curriculum for Ontario were discussed. The representatives from the Toronto medical colleges preferred four sessions of eight months each rather than four sessions of six months each, with an additional year to be devoted to practical work, or to original research.

It is only a short time since the Ontario Medical Council, after careful consideration and free discussion, established the five years' course. Its members were guided chiefly by the requirements of the curriculum of Great Britain, and some of them, at least, now think the new regulations should receive a fair trial before any radical changes are contemplated. If, however, all the medical faculties in the province united in making a request for a modification of the present regulations, the matter would have been carefully considered. Such concerted action on the part of the schools is, for the time being, made impossible by the attitude assumed by the authorities of Queen's University, Kingston. Dr. Moore, the representative of Queen's in the Medical Council, at the recent convocation held April 28, indicated clearly that the governing body of his university was opposed to any change. Principal Grant, in supporting these views, said (as reported in *The Mail and Empire*) "that since the Medical Council of the province had established the fifth session for independent research, hospital practice, and laboratory investigation, it would be disrespectful to knock the plan on the head before an attempt had been made to put it into practice. Further, an eight months' session would be a great disadvantage to the poorer men among the students who, at present, during the six months' vacation, earn money to help in their college work. The Medical Council would act wisely in not pressing its powers too rigidly, and in not making too many changes. When they did make changes they should stick to them."

As the demand for a change such as proposed comes only from a limited constituency, it is unlikely that we will hear about it for two or three years at least; but we think that the members of the council, while desirous of giving their new regulations as to the five years' course a fair trial, should watch carefully the results of their recent legislation—especially with reference to the fifth year, and consider at the same time the results in certain medical colleges outside of Ontario where sessions of eight or nine months are held during each of four years.

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### THE JENNER CENTENARY:

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THE PRACTITIONER (English) does honor to the memory of the great Jenner by devoting a large portion of its May issue to a record of the history of his work in connection with vaccination. From it we learn that Edward Jenner performed his first vaccination, one hundred years ago, May 14, 1796, on the person of James Phipps, æt. 8. The editor of *The Practitioner* says: "It is remarkable that the centenary of that first vaccination is to be celebrated with appropriate pomp in Germany, in Russia, in the United States—but not, as far as I know, in England. This is surely a particularly striking example of a prophet being without honor in his own country. Jenner was not only one of the greatest benefactors of the human race, but his name will live to the last syllable of recorded time as one of the glories of British medicine."

We learn from the same issue of *The Practitioner* that Jenner practised medicine for a short time in London, but during the greater part of his professional career he was simply what is called a country doctor. He was born at Berkeley, a village in Gloucester, in 1749; and his father, the vicar of Berkeley, died during Edward's childhood. He, fortunately, was not neglected, but, under the guardianship of his elder brother, received an excellent education—chiefly classical. After leaving school, he served the good old-fashioned term of apprenticeship under a surgeon in a village near Bristol, after which he went to London in 1770, where he finished his medical education at St. George's Hospital, being at the same time a pupil of John Hunter, living in his house two years.

With reference to the great discovery of vaccination, *The Practitioner* speaks as follows ("Heroes of Medicine"):

"The intellectual seed which grew into so splendid a harvest was sown in Jenner's mind while he was an apprentice at Sodbury. A young countrywoman came one day for advice, and on something being said in her hearing about smallpox she at once said, 'I cannot take that disease, for I have had cowpox.' This was the first time Jenner had heard of a piece



of medical folklore which was fairly well known in the district, and it made a deep impression upon him. The idea remained in his mind, slowly but surely maturing. He spoke to Hunter, in the days of his pupilage, of the Gloucestershire belief in the protective effects of cowpox, and Hunter referred to the subject both in his lectures and in conversation, but apparently attached little importance to it. The matter, however, haunted Jenner's mind, and he spoke about it to his medical acquaintances in season and also, it would appear, out of season, for he says that the members of a Medico-Convivial Society at Rodborough, to which he belonged, threatened to expel him if he persisted in boring them about cowpox. Feeling sure, however, that he was on the right way, he went on working in the spirit of his great master's precept—'Why think? Why not try the experiment?'

"On May 14, 1796, he had at last an opportunity of fairly testing the prophylactic efficacy of cowpox. Matter was taken from the hand of Sarah Nelmes, who had been infected by her master's cows, and inserted by two superficial incisions into the arms of James Phipps, a healthy boy about eight years old. The symptoms that followed were those now familiar to everyone. On July 1st the boy was inoculated with matter from smallpox pustules without any result. This was the first successful vaccination."

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#### RELATIONS OF MEDICAL EXAMINING BOARDS TO THE STATE, TO THE SCHOOLS, AND TO EACH OTHER.

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MANY prominent physicians in the United States are making strenuous efforts to raise the standard of preliminary education for intending medical students. Dr. William Warren Potter, of Buffalo, president of the National Confederation of State Medical Examining and Licensing Boards, chose the above title as the subject of his annual address at the sixth conference of this body, held at Atlanta, May 4, 1896.

He said there were three conditions in medical education reform on which all progressive physicians could agree—namely, first, there must be a better standard of preliminaries for entrance to the study of medicine; second, that four years is little time enough for medical collegiate training; and, third, that separate examination by a state board of examiners, none of whom is a teacher in a medical college, is a prerequisite for license to practise medicine. It is understood that such examination can be accorded only to a candidate presenting a diploma from a legally registered school.

He further stated that a high school course ought to represent a minimum of academic acquirements, and that an entrance examination should

be provided by the state for those not presenting a high school diploma or its equivalent.

He did not favor a National Examining Board, as had been proposed, but instead thought all the states should be encouraged to establish a common minimum level of requirements, below which a physician should not be permitted to practise ; then a state license would possess equal value in all the states.

In regard to reciprocity of licensure, Dr. Potter thought it pertinent for those states having equal standards in all respects to agree to take this exchange of inter-state courtesy by official endorsement of licenses, but that other questions were of greater moment just now than reciprocity. Until all standards were equalized, and the lowest carried up to the level of the highest, reciprocity would be manifestly unfair.

He urged that the states employ in their medical public offices none but licensed physicians. This, he affirmed, would tend to stimulate a pride in the state license, and strengthen the hands of the boards.

He denied that there was antagonism between the schools and the boards, as had been asserted. He said that both were working on parallel lines to accomplish the same purpose, that there could not possibly be any conflict between them, and that they were not enemies, but friends.

The medical journals of standing, from one end of the country to the other, he affirmed, were rendering great aid to the cause of reform in medical education, and the times were propitious.

He concluded by urging united effort by the friends of medical education, saying that "the reproach cast on us through a refusal to recognize our diplomas in Europe cannot be overcome until we rise in our might and wage a relentless war against ignorance, that shall not cease until an American state license is recognized as a passport to good professional standing in every civilized country in the world."

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#### ONTARIO MEDICAL ASSOCIATION.

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WE have every reason to believe that the coming meeting of the Ontario Medical Association, to be held in Windsor, June 3 and 4, will be in all respects very successful. The president, Dr. Grasett, has been indefatigable in his efforts to work with his fellow-officers in doing everything that is necessary to make the arrangements as complete as possible. The Committee on Papers and Business, under the chairmanship of Dr. Graham, has prepared a good programme. The committee of arrangements, composed largely of physicians in Windsor and the neighborhood, has done good work. It is likely that the visiting members will be well

received and well treated. Dr. Victor C. Vaughan, of Ann Arbor, Dr. Carstens, of Detroit, and many others from the States, have accepted invitations to attend.

The following is a partial list of papers promised :

Discussion in Medicine.—Treatment of Phthisis, W. J. Geikie, Toronto; George Hodge, London ; V. H. Moore, Brockville.

Discussion in Surgery.—Operation—Treatment of Mammary Carcinoma, W. Burt, Paris ; A. B. Welford, Woodstock ; G. T. McKeough, Chatham.

Discussion in Obstetrics.—Treatment of Puerperal Sepsis—H. T. Machell, Toronto ; G. Acheson, Galt ; H. Meek, London.



## Meetings of Medical Societies.

### TORONTO MEDICAL SOCIETY.

THE regular meeting of the Toronto Medical Society was held April 16, 1896.

The minutes of the previous meeting were read and adopted. Dr. J. G. Mennie was proposed as member.

Dr. Mennie presented a brain which he had removed from a man who had committed suicide. When he arrived he found the patient unconscious, breathing with a deep, heavy stertor, and a pulse rate of 150. He had shot himself in the forehead, a little to the right of the middle line. The opening through the skull would admit his finger. The patient soon regained consciousness, and when asked for the reason why he had committed the deed he said there was none, but he was sorry he had not killed himself; he was only sorry that he was alive. A probe of its own weight dropped into the cavity four inches. The wound was dressed with acetanilid. There was no paralysis nor abnormality of sensation. He continued well for several days, when his temperature and pulse showed signs of inflammatory trouble. Death followed. The brain was then opened before the society. About the centre of the left cerebral lobe was a small patch of softening, and what appeared to be hæmorrhagic and necrotic tissue. The bullet was found to have entered the right lateral ventricle, and, after traversing its whole length, lodged in the posterior extremity.

Dr. Oldright reported a case in which the patient had shot himself with an old horse pistol. There was no bullet in the charge, but the brown paper wadding had penetrated the skull. This man also was perfectly conscious until a short time before his death.

Dr. McMahon, in discussing the subject, said he believed too often such unfortunates were too uncharitably looked upon; their act was often the result of physical disease.

Dr. Powell held the view that in many cases suicide was the refuge of the coward.

Dr. James McCallum held that individuals who, under homicidal impulses, committed murder should receive capital punishment.

Dr. Webster referred to a case where the patient, who was not a bad man, seemed subject to conditions over which he had no control. He thought the man should not be held responsible for a deed committed at such a time.

Dr. Oakley and Dr. Starr also discussed the question.

Dr. Oakley reported a case in practice. The patient was a druggist who attempted to dispense some nitric acid in a bottle which had contained carbolic acid. The explosion threw the nitric acid into his eyes. Oil and an alkali, with cold applications, constituted the treatment.

Drs. Webster, Oldright, and Powell discussed the case.

Dr. Oakley asked for opinions as to the best treatment of a case of fracture of the patella, now three months treated. The patient could not afford to remain quiet the length of time recommended.

Dr. Oldright referred to cases where he had allowed the patients to go about in three months, a plaster of Paris splint being applied.

Dr. Powell and Dr. Starr discussed the paper.

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The next regular meeting of the society was held April 23. Minutes of previous meeting read and adopted. Dr. Mennie was elected a member of the society.

Dr. Burnham read a paper, and reported a case of optico-ciliary neurotomy. The patient was a boy aged twelve. In September, 1895, he received an injury to his right eye while crossing the Atlantic, the nail of his thumb coming in contact with it. The result was a penetrating wound of the cornea and prolapse of the iris. There being danger of sympathetic inflammation, the conjunctiva was divided over the internal rectus, the tendon of that muscle severed, and the optic nerve transacted far back. Posterior surfaces were then reflected between the lids, and the optic nerve divided close to the sclerotic. The ciliary nerves were also carefully cut away, the eyeball being left. There was free bleeding for a short time, but this was checked and the clots removed, the eye replaced, and cold applications were applied. The eyeball is somewhat smaller than the other; the cornea is anæsthetic. The essayist pointed out the advantage of this operation over the total removal or enucleation of the eye. This was an operation specially suitable for children. With proper precautions results were usually satisfactory. The reaction following operation was not severe. There was practically no danger from sympathetic trouble now. He pointed out that if a foreign body struck the cornea it would not be felt. As to the formation of corneal ulcers, he thought the chances of their formation was not great, and the cornea would still possess resisting power.

Dr. Ross presented two dilated and unopened pus tubes, each being about five inches long and two inches in diameter. He had removed them

from a woman aged thirty-two, who had been married nine years, with no children. She had what she thought was a miscarriage in March, 1896, after which time she suffered from more or less pain in the pelvis. She had what was called la grippe in 1895. After this symptoms were not very pronounced. On examination, Dr. Ross thought these very movable bodies, which he felt were Rokitansky's tumors—dropsy of the Graafian follicles. The patient made a good recovery. The tubes were opened before the society and found to contain pus.

Dr. Ross presented a second specimen of an appendix which he had removed on account of symptoms of appendicular colic, which had been more or less present in the patient for some years. The appendix was found to be extremely thin when cut down, and fecal concretions could be seen in it owing to its transparency.

Dr. Oldright said it was a difficult question to decide whether to operate or not in primary attacks of appendicitis. It was not so difficult to decide in cases of repeated attacks. Dr. Ross was not in favor of operating in all cases immediately the diagnosis was made. If the appendix had already ruptured into the peritoneal cavity, there was no use in operating in all cases immediately the diagnosis was made. If the appendix had already ruptured into the peritoneal cavity, there was no use in operating generally. In cases where the third stage was reached, where abscess had formed, immediate removal of the appendix was not necessary. All that needed to be done was to simply open the abscess.

Dr. Winnett presented a stone he had removed from Wharton's duct. The patient was a man aged 52, who had been suffering from inflammation of the mouth, which seemed to come from a swelling in the right submaxillary region. The doctor made an incision, cutting down on some hard substance, but did not remove it. Five days later it came away itself.

Dr. Carveth reported a case he had seen which followed a similar clinical course.

Dr. Ross said he had seen a case where perforation of Steno's duct had been diagnosed carcinoma.

Drs. MacCallum, McMahon, W. J. Wilson, Oakley, and Oldright reported cases.

Dr. Oakley described his treatment of a fracture of the patella.

Dr. Ross reported the history of a case. Patient was a man who complained of pain under the edge of the liver for three months. A movable mass was found in the abdomen. A diagnosis was made between distended gall bladder and intestinal trouble, with the possibility of appendicitis. Operation showed malignant disease of the large intestine. An anastomosis was made with the aid of a button.



The Executive Committee recommended that a committee be appointed by the president to meet with committees appointed by the other societies to take into consideration the advisability of having a central meeting place for all the societies. The report was received and adopted.

The meeting then adjourned.

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### TORONTO CLINICAL SOCIETY.

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THE thirtieth regular meeting of the Toronto Clinical Society was held on April 8, 1896, Dr. J. E. Graham presiding.

The following members were present: Walker, Primrose, Oldright, King, Smith, Baines, Spencer, Greig, McDonald, Trow, Wright, Aikens, Graham, Britton, and Brown.

The minutes of the previous meeting were read and adopted.

The secretary read a letter from Mrs. McFarlane, thanking the society for the resolution of condolence.

Dr. Primrose presented a femur of a leg which he had removed by amputation at the hip for tubercular disease of the hip-joint.

Dr. Baines read a paper on "Hereditary Syphilis."

This was discussed by Drs. Primrose, Oldright, Trow, Graham, and Britton.

Dr. E. E. King read a paper on "Roentgen Skiagraphy." Herr Dr. Roentgen's discovery had not been published to the world until its practical value had been determined. To medical men it would be of great aid in the diagnosis of obscure bone lesions and of the location of foreign bodies in the limbs, possibly also of discovering kidney calculi. The essayist then gave a little description of the apparatus used to produce the skiagraph. Following this he gave an extract from an article by Professor Schubert, which contained an historical review of the progress of electrical science.

Dr. King showed some pictures of foreign bodies which were skiagraphed through the hand and arm—needles, a piece of lead, and a piece of glass. One skiagraph showed a small piece of metal in the distal end of the first phalanx of the middle finger which was causing considerable annoyance. He had cut down and removed the body. Some ten months previous a needle had penetrated the finger and broken off. A medical man was consulted at the time, but the patient thought the broken piece was not entirely removed. He had also succeeded in making a skiagraph of a three months' foetus, which clearly defined the centres of ossification. He had also made one of a wrist on which an excision had been performed which gave a very clear outline of the joint.

Drs. Britton, Primrose, McDonald, Aikins, and Oldright took part in the discussion.

The nomination of officers was then proceeded with. President, Dr. Allen Baines ; vice-president, A. A. Macdonald ; corresponding secretary, Dr. D. C. Meyers ; recording secretary, Dr. J. N. E. Brown ; treasurer, Dr. Norman Walker. Executive Committee : Drs. E. E. King, A. Primrose, B. Spencer, H. B. Anderson, and W. P. Caven.

It was then resolved to hold the annual banquet at the next date of meeting.

Drs. N. Walker and W. H. B. Aikins were appointed a committee of arrangements.

Dr. Gregg moved that the by-law in regard to notice of motion be suspended, as he had a motion to make which, in order to be carried before the end of the year, would have to be moved that evening. Seconded by Dr. Oldright. Lost.

Dr. Gregg then gave notice that he would move at the next meeting that the committee be appointed to confer with committees of the other medical societies, and the board of the Ontario Medical Library Association, for the purpose of making arrangements for a central meeting place.

Society then adjourned.

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## PATHOLOGICAL SOCIETY OF TORONTO.

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IN the absence of Dr. Carveth, the chair was taken by Dr. Primrose. There were present Drs. McPhedran, Greig, Wilson (W.J.), Anderson, MacCallum (J.M.), Primrose, J. Caven, H. H. Oldright, F. N. G. Starr, J. Sheahan, and N. McL. Harris.

Dr. McPhedran showed his specimen of aneurism of the abdominal aorta, rupturing into the pleura.

### ANEURISM OF THE AORTA.

The specimen was from a man aged 35, a harnessmaker by trade, but for the last few years he worked in a grocery store, and had to do heavy lifting. He had taken a good deal of alcoholic stimulant for twelve years. Had three attacks of gonorrhœa six years ago. There was a sore on the penis after the second attack ; it was well in a few weeks. He took medicine for three weeks after the third attack. There is no history of subsequent signs of syphilis. Fifteen years ago he was injured by a horse falling on him. There was severe pain in the hypogastrium during the night after the accident. The urine was hæmorrhagic. Recovered completely in three weeks.

In April, 1894, he noticed that his strength was poor, and observed throbbing in the epigastrium. He entered the Toronto General Hospital in June following. There was then a well-defined rounded tumor  $2\frac{1}{2}$  inches distant in right part of epigastrium, just below the ensiform cartilage. The pulsation was quite expansile. The tumor could be easily grasped. There was a loud, soft bruit, audible over the tumor and in lower dorsal region. The femoral pulse was later than the radial.

He was kept in bed for three months; his liquids were reduced to ten ounces per day, but as he was anæmic and considerably emaciated he was allowed a full supply of solid food. Potassium iodide was given continuously, grains x three times a day, and 1 or 2 *m.* solution nitroglycerin 1 per cent. to reduce blood pressure.

By October the tumor was reduced by about one-quarter its size, was firmer and less expansile. It remained without any change all winter, and he was dismissed in May, 1895, apparently cured. He continued in good condition all summer, and in September he went to work at mattress making. In a week the distress in epigastrium returned, and he re-entered the hospital in October. No change was apparent in the old tumor, but a second had developed to the left side of it, larger and softer than the old one, and with marked expansile pulsation. There was some pain in the back, but not severe. It disappeared in two weeks.

He was treated as on the former occasion, but showed no signs of improvement. The new tumor gradually increased in size, and on November 2 he was seized with considerable pain in the epigastrium, followed after a few hours by gradually increasing collapse. He died next day.

At the autopsy the old sac was found thick at its anterior part and lined with a thick deposit of pale fibrin. The posterior wall was irregularly thickened and had a little fibrinous deposit on it. The new sac had formed from its left side. The new sac was thin, and without any deposit. A rupture had taken place at the upper part of the posterior wall of the old sac. The extravasated blood had gradually forced its way upwards behind the pillars of the diaphragm. It was enabled to do this on account of the slight erosion that had occurred on the bodies of two vertebræ. The blood found its way up into the posterior mediastinum, and then ruptured into the right pleura, which was full of clots. The aorta, where it entered the upper end of the sac, was much contracted, measuring about half an inch, and admitted only the tip of the index finger. The aorta was atheromatous.

In a similar case over two years ago rupture took place in the same situation as in this one, and the blood escaped into the right pleural cavity in the same manner. In that one no second sac had formed. He had



been in the hospital for seven months and was discharged with a smaller and hard tumor. He resumed work as a plasterer, and worked hard for about two years.

In both these cases the method of treatment by needling as practised by Macewan, if practicable, offered good ground for hope of a cure. The needles passed into the sac would reach the whole area of weakness and thus lead to the formation of white clot, just where it was needed to prevent rupture.

Dr. Greig asked if the narrowing of the aorta was not peculiar, and would it not have a favorable effect upon the course of the aneurism?

Dr. Anderson desired to know what effect the syphilis plays in the production of aneurism.

Dr. H. H. Oldright asked if the narrowing is congenital, or due to arterio-sclerosis.

Dr. McPhedran, in reply, said most of the cases he had seen gave a history of syphilis, though he had seen cases in which there was no history. He thought it gave rise to degeneration of the vessel wall. There must be some local weakening of the vessel.

Dr. Primrose presented, as a card specimen, a transverse frozen section of the thorax, showing a large cavity in the lung.

Dr. H. B. Anderson presented a specimen of

#### DIAPHRAGMATIC HERNIA.

This specimen was taken from the body of a man who died as the result of injuries from an accident, being struck by a G.T.R. train, dying in about one week. On the left side of the diaphragm was a large globular sac, extending up behind the lung as far as the third rib. The muscular tissue in the part of the diaphragm corresponding to the sac was entirely gone, the only muscle on the left side being a small amount in front of and to the right of the hernia.

The spleen occupied the upper part of the sac, which also contained the cardiac end of the stomach, the splenic flexure of the colon, and the upper part of the left kidney. The sac was lined by peritoneum. The right lung weighed twenty-four ounces and the left weighed twenty-one, the latter ending below in a long, narrow, tongue-like process of collapsed tissue, extending down between the hernial sac and the anterior thoracic wall.

The patient had met with an accident about two years previously, the nature of which could not be ascertained. The condition in the diaphragm was evidently of long standing, and had attracted no attention during life.

Congenital malposition of the kidney.

While making a dissection of the abdominal viscera at Trinity Medical College, Mr. J. Eagleson and Mr. McKay, two second-year students,

called my attention to the fact that the right kidney was absent. On continuing the dissection no right renal artery or corresponding vein was found, but, instead, a small artery coming from the right of the abdominal aorta, about a quarter of an inch below the coeliac axis, and distributed to some adipose tissue in a position corresponding to the middle capsular artery. Later on, while cleaning away peritoneum from common iliac arteries, they found the missing kidney. It was surrounded by a thick covering of adipose tissue, and lay along the anterior surface and inner border of the right psoas muscle, in front of the common iliac artery, with its upper end slightly below the bifurcation of the aorta. The kidney was much distorted, so as to be conformed to its abnormal surroundings.

Its blood supply is a comparatively large branch from the inner side of the left common iliac, close to the bifurcation of the aorta. This vessel enters the kidney at the middle of its internal surface, whilst the vein emerges from the hilum on the outer border, and enters into the left common iliac.

The ureter is short, of usual diameter, emerges from the hilum on the anterior border, and then takes the usual course to the bladder.

The kidney was of normal size, and was surmounted by a suprarenal capsule, which receives its blood supply from a slender branch arising from the aorta.

A photograph of the kidney and its vascular supply, etc., is herewith presented.

Dr. Carveth arrived, and took the chair. He mentioned a case of misplaced kidney which was supposed to have been dragged down by an inguinal hernia.

Dr. Greig said the second case appeared to be a pouching upward of the diaphragm, rather than a perforation.

Dr. Anderson, in reply, said he called it a hernia because it was a displacement of a viscus into another cavity. Dennis classifies three forms :

- (1) Through a congenital pressure.
- (2) Through one of the normal openings.
- (3) Through rupture from accident.

He supposed his case belonged to the third variety.

Dr. E. E. King presented, as card specimens, a heart in which a needle lay in the wall of the left ventricle, the point being free in the left auricle ; and a lung in which a long pin passed from side to side.

Dr. William Oldright reported a case of superfœtation. One foetus was about a month, and the other appeared to be at the second or third month.

Dr. Greig asked if it might not be a case of delayed development in one foetus.

Dr. Oldright, in reply, thought not, for both were formed.

Mr. Cameron presented three card specimens :

(1) Ovary and tube (left). Corpus luteum of menstruation. Cyst ruptured. Clot within. Menstruation began ten days before removal, and ceased in four days. Removal on account of adhesions, menorrhagia, and dysmenorrhœa. Right ovary and tube removed one year ago for similar symptoms. Patient æt. 32; married ten years; no children; seven miscarriages, all at fifth month, except one at seventh. Uterus bicornis. Left ovary and tube intimately adherent to broad ligament and to intestine. Broad ligament on right side perfectly smooth and regular in outline. No trace of operation stump on palpation.

(2) Uterus removed per vaginam for cancer in a patient æt. 63. Secondary deposit (or fibroid?) in fundus.

(3) Penis removed for cancer; patient æt. 63. Inguinal glands not involved; flap operation.

Regular meeting, March 28, 1896, the president, Dr. George H. Carveth, in the chair.

Present: Drs. MacCallum, Hamilton, Wilson, W. Oldright, H. H. Oldright, Carveth, Peters, Amyot, McPhedran, Thistle, Reeve, and E. E. King.

Visitor: Dr. Sinclair, Tilsonburg.

Dr. Peters showed the following specimens:

(1) An oxalate of lime calculus removed from the bladder by crushing. It had been passed from the kidney four years previously, there being a history of renal colic at that time. The patient was aged 63 years.

(2) A stone, three-quarters of an inch in diameter, removed from the bladder of a female by dilatation of the urethra. The woman had suffered at least one year from the presence of the stone. At the time of the operation she was in the sixth month of pregnancy, and had considerable albumen in the urine, with also occasional glycosuria. The patient had almost no incontinence of urine after the operation, and the next day she was able to hold her urine about four hours. The stone is phosphatic in character, and the nucleus has evidently been a clot of blood or a mass of mucus, which has undergone disintegration and left a cavity in the centre of the stone.

(5) A small oxalate of limestone (18 grs.), removed by lithotrity from a man aged 63. There is the history of an attack of renal colic four years ago, when this stone probably came down. The patient suffered severely from the ordinary symptoms of stone. Considering the length of time over which the history extends, the small size of the stone is remarkable.



(4) A loose body removed from the knee-joint. Evidently a fragment broken off from the articular surface of the patella (published elsewhere).

Dr. Amyot showed a specimen of a

#### TUBERCULOUS KNEE.

Female, æt. 28 years. Affection of five years' standing. Pain severe, but in the head of tibia not much pain, except latterly, on moving joint. Tender points in head of tibia; atrophy above and below; no flexion. Uniform swelling of joint. No fluid. Infarcts in femur above and tibia below in head of fibula. Patella free from apparent involvement at least.

Dr. Thistle asked if bacilli had been found.

Dr. Amyot, in reply, said there was tuberculosis of the lungs in which bacilli were found, but bacilli had not been found in the joint. The examination was made, however, only after the joint had been in alcohol some time.

Dr. E. E. King showed some

#### TUBERCULOUS GLANDS

removed from the neck of a negress, æt. 18 years. No microscopical examination had been made. He also showed a diseased carpus from a bullet injury eighteen years ago. There was pain, swelling, and loss of motion.

The condition was supposed to be tuberculosis. The diseased area was cut into, and the carpal bones were found to be loose. The carpus was scooped out, and a bullet was found among the carpal bones.

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### LONDON MEDICAL ASSOCIATION.

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THE regular monthly meeting of the London Medical Association for March was held in the Medical College on the 9th of the month.

Present: Dr. Meek, the president, in the chair, and Drs. Moore, Hodge, Wishart, Graham, Hobbs, Stevenson, Ferguson, Kingsmill, Hotson, and English.

Dr. Moore exhibited a rare and most interesting case of intracapsular fracture of the head of the femur, and presented the following history:

The patient, a boy aged 15 years, is a parcel deliverer; he has always been strong, and has had no serious illness. The family history is good. Six weeks previous to December 24, 1895, while skating, the lad tripped and fell heavily upon the right hip; he complained of some little soreness but moved about as usual; three days later, while skating, he again fell striking upon the same hip. For some three weeks after this he com-

plained of pain and soreness in the hip-joint, but continued to do his ordinary work, and finally it ceased.

On the evening of December 20, on alighting from a moving electric car, he alighted upon his right heel, twisted the body, and immediately fell to the ground; he hobbled to the sidewalk, and then back to the next street car that passed, and, after getting off this car, managed by stepping upon his toe to walk three-quarters of a block to his home. For four days he hobbled about the house with the assistance of a stick. No physician was consulted up to this time. Dr. Moore was called on December 24, 1895, and at once had the patient removed to St. Joseph's Hospital.

On examination, the leg was found to be one and a half inches shorter than its fellow; the hip-joint was enlarged and tender; the foot everted; temperature,  $102^{\circ}$ ; traction would not reduce and keep reduced the fracture; there was no impaction; the ends of the bones would rub together, but not pass one another. A straight splint and traction to the extent of fifteen pounds was employed, but no effect was produced upon the shortening.

Our reason for exhibiting the case was that it has been stated that intracapsular fracture never occurs in childhood.

Query: Was this an impacted fracture in the first instance, and, after moving about upon the limb for six weeks, was the impaction reduced; or, was this a green-stick fracture at the time of the first fall, and made complete by subsequent accidents?

Three cases of intracapsular fracture in children were referred to which had been reported in the *Medical and Surgical Bulletin* of New York, December 15, 1895.

The case was fully discussed by Drs. Wishart, Graham, Ferguson, and the president.

Dr. Hobbs, of the London Asylum, read a most interesting report of "A Year's Gynæcological Work Among the Insane."

The members congratulated Dr. Hobbs upon the success of his work, and urged him to pursue it further.

At the February meeting the following interesting case of imperforate anus and entire absence of rectum in an infant was reported by Dr. W. M. English.

On the evening of December 24, 1895, I was called to attend Mrs. T., a woman of 40 years, who had been married twenty years.

She had been attended by an old nurse, and the child was born one and a half hours before I was called, but the placenta had been retained. After some little difficulty this was delivered piecemeal.

Previous history; This was the tenth pregnancy, and of the ten children three only were now living; she had two miscarriages at four and six months, respectively, and two stillborn at full term.

The present infant was small and poorly nourished, but upon casual examination appeared to be perfect.

The nurse reported all doing well until the third day, when complaint was made that the infant was vomiting everything that was taken, and that there had been no movement of the bowels since birth. On examination the anus was found to be absent, and there was entire absence of any elevation or depression, or any indication of an outlet.

I at once made an incision in the median line, commencing at the coccyx, and cutting forward one inch, and one and a half inches deep, but could find no trace of a rectum, though the wound was deepened to two inches.

Thinking that enough had been done for one day, and fearing that the infant would not survive the day, I postponed further operation for twenty-four hours; then on the succeeding day I performed colotomy in the left loin by oblique incision, commencing three-quarters of an inch from the spine and forward two inches; the peritoneal cavity was unfortunately opened; the bowel was easily secured, and found to be filled with meconium. After fastening it securely to the sides of the incision, the bowel was opened longitudinally, and the meconium escaped.

The infant survived five hours, and died without having a free discharge of the bowels through the wound.

The regular monthly meeting of this society was held on April 13, Dr. Meek, president, in the chair.

Dr. J. B. Campbell read an exhaustive paper on "Angina Pectoris," discussing the etiology, symptoms, and treatment of the disease. As to etiology, the views of writers were confusingly divergent. He cited four cases in his own practice which he thought were typical of the classes of cases met with in general practice, viz., the neurotic, emotional, hysterical, and organic cases. The first case was that of an elderly man with a sensitive, nervous organism, kept under control except when the occasional angina asserted the inability of the heart innervation to withstand some special strain or tension; the second case, that of a sturdy but excitable politician, who, on the occasion of a heated and angry controversy with an opponent, was suddenly seized with a violent attack of angina pectoris; the third, a typical neurasthenic, in whom the ordinary attack of hysteria sometimes merged into a violent seizure of angina. These three forms, he said, are predominated by nerve impulses, and yet are so distinct in type that their etiology, if thoroughly understood, would, doubtless, relegate each to a distinct class. The fourth case was one in which the recurring attacks were due to organic disease of the heart. Organic cases admitted of scientific diagnosis, and rational, though not always effective, treatment. Nitroglycerin he found the most generally serviceable remedy



for treatment in the intervals, with amyl nitrite to relieve attacks. Valerianate of ammonia in neurotic cases, and iodide of potassium in atheromatous conditions, he had also used with fair results.

Dr. Graham had found in a country practice that the aged, broken down by hard labor, were specially susceptible to angina pectoris.

Dr. Eccles had observed that, in a patient to whom he had given nitroglycerin continuously for nine months, a tolerance of the drug was created, the frontal headache did not accompany its use, and the patient's nutrition was markedly improved.

Dr. Jento recalled a case in which the patient was relieved of her angina coincident with the expulsion of a uterine cast (membranous dysmenorrhœa).

Dr. Gardiner's experience was that true angina pectoris was most frequently due to cardiac dilatation, and he had always found the application of the old-fashioned mustard plaster a good sedative and regulator of the disordered cardiac mechanism.

Dr. Ferguson was treating a case of gastric dilatation in which attacks of angina were induced apparently by flatulent distension of the stomach, causing pressure upon the distribution of the phrenic nerve to the diaphragm, and interference with the movements of the heart.

Dr. Jento reported a case of dislocation of the femur on the dorsum ilii, which he reduced twelve and a half weeks after the occurrence of the accident by pulley traction, after failure to reduce by manipulation. The case had been treated for two months before he saw it for fracture of the head of the femur. He found the thigh slightly flexed, abducted, and everted. Fixation splints, with rest, was the after-treatment for four weeks; then the patient went about on crutches. In two months he could walk without the aid of a cane, and in six months he resumed his ordinary work.

Dr. Campbell had never found manipulation of service in reducing dislocations.

Dr. Wishart thought the mode of reduction depended altogether upon the kind of dislocation. Dislocations of the shoulder, for example, were not generally reducible by manipulation, as the movable scapula did not afford leverage for manipulation. Regular dislocations of the femur, however, were effectively reduced by manipulation. The eversion of the foot in Dr. Jento's case showed that the dislocation was irregular, and that there was rupture of the ilio-femoral ligament. In that case the leverage afforded by the ligament was wanting, and, consequently, manipulation would have been unavailing, even if the dislocation were recent.

## . ONTARIO MEDICAL ASSOCIATION.

The following is an incomplete list of papers to be presented at the coming meeting of the Ontario Medical Association at Windsor, June 4-5 :

## MEDICINE.

Treatment of Phthisis—A. J. Geikie, Toronto ; Geo. Hodge, London ; W. B. Thistle, Toronto.

Diphtheria—C. R. Charteris, Chatham.

The Rational Treatment of Typhoid Fever—J. P. Armour, St. Catharines.

The Differential Diagnosis of Typhoid Fever—G. R. Cruickshank, Windsor.

## SURGERY.

Operative Treatment of Carcinoma—W. Burt, Paris ; A. B. Welford, Woodstock ; G. T. McKeough, Chatham.

## OBSTETRICS.

Case of Pregnancy Complicated with Retroversion of the Uterus—Alexander Bethune, Seaforth.

Treatment of Abortions—G. T. McKeough, Chatham.

Treatment Puerperal Sepsis—H. T. Machell, Toronto G. Acheson, Galt ; H. Meek, London.

Occipito-Posterior Presentations—A. A. Macdonald, Toronto.

Missed Abortion—F. R. Eccles, London.

## MISCELLANEOUS.

(a) Tongue-like Lobes of the Liver, (b) Erythema Multiforme—A. McPhedran, Toronto.

Anæsthetics—Dr. Scadding, Toronto.

Skin-Grafting (with case)—R. Whiteman, Shakespeare.

The Total Stamping out of Transmittable Diseases—A. Groves, Fergus.

Hæmoptysis—J. M. Cotton, Lambton Mills.

Mitral Diseases in Pregnancy—C. J. O. Hastings, Toronto.

Roentgen Rays—E. E. King, Toronto ; N. A. Powell, Toronto.

Conservative Surgery of the Eye—R. A. Reeve, Toronto.

General Infections Produced by Certain Pathogenic Bacteria, Generally Associated with Local Lesion—H. B. Anderson, Toronto.

Report of Surgical Cases—T. K. Holmes, Chatham.

Phthisis in the Insane—E. H. Stafford, Toronto ; E. E. Harvey, Norwich ; Victor C. Vaughan, Ann Arbor, Michigan.

Mixed Infections—John Caven, Toronto.

## Book Reviews.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third Series. Vol. xvii. Philadelphia : Printed for the College. 1895.

This volume of Transactions contains nineteen papers read before the college during the past year, together with the Jenks' prize essay on "Infantile Mortality during Childbirth, and its Prevention." The volume forms a most valuable addition to current medical literature. The papers are on various topics, and will be read with great interest by practitioners, whether general or special.

AN ESSAY ON MALARIA AND ITS CONSEQUENCES. By Robert Lindsay, A.M., M.B., F.R.C.S.E., retired surgeon Army Medical Department London : H. K. Lewis.

This book of 116 pages is neatly gotten up by Lewis, and reflects credit on the publisher. The author has evidently never heard about the *plasmodium malariae*, and advances some absurd views about poisoning with carbonic acid gas as being the cause of malarial fevers. In these days, when so many really valuable books are issuing from the press, it would hardly repay one to waste time perusing this work. We hardly expect a second edition will be called for.

INDEX OF MEDICINE. A manual for the use of senior students and others. By Seymour Taylor, M.D. Philadelphia : Lea Bros. & Co. 1894.

In this manual there are 800 pages, those devoted to the diseases of the vascular system being, in our opinion, most clear and worthy of study. We have always held that manuals are of questionable value to students, and that they may encourage superficiality in medical study. We believe that students who have read the text-books faithfully can review them for the purposes of examination with greater facility and profit than they can a manual hitherto unknown to them.

Though in many respects this Index of Medicine is a desirable book, yet in the matter of treatment, in some instances, it is not "up-to-date."

A TREATISE ON THE MEDICAL AND SURGICAL DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, etc., etc. Eighth edition, revised and enlarged. Lea Brothers & Co., New York and Philadelphia. Pp. 987 ; illustrations, 273 ; plates, 4.

This well-known work has been largely rewritten and much enlarged. It contains, in addition to what is usually embraced under the term "diseases of



children," valuable chapters on the commoner surgical affections of children. The surgical portion is from the pen of Prof. Stephen Smith, of New York. In this portion of the work diseases of the joints, spine, and osseous system are fully considered, also malformations and deformities. The final section of the book is devoted to diseases of the skin. A useful addition to this section is an indexed formulary.

Altogether, the book is much improved, and can be highly recommended, as it presents, in fairly concise form, a vast amount of information and the most recent ideas concerning affections peculiar to childhood, whether within the domain of medicine or surgery. The illustrations and style of the book leave nothing to be desired.

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**THE FUNCTIONAL EXAMINATION OF THE EYE.** By John Herbert Claiborne, Jr., M.D., Adjunct Professor of Ophthalmology, New York Polyclinic; Instructor in Ophthalmology in the College of Physicians and Surgeons, New York, etc.

Amongst the large number of useful books upon the "Eye," we think this one will find a place. It treats only of the functional examination of the eye, with reference to the determination of refraction and the necessity for wearing glasses. The author calls special attention to the chapter on Presbyopia, and remarks that to judge from the frequency with which glasses are prescribed for this condition by totally ignorant people one might imagine it to be a very simple affair. As a matter of fact, he says, it is the most difficult problem in refraction, and a thorough knowledge of it implies a thorough knowledge of all the anomalies of refraction.

The whole book is carefully written, and though, of course, strictly technical terms are used, still it can be followed easily enough by the general practitioner. This is as interesting a work on this rather tedious subject of refraction as has yet appeared, and we think it should be well received by practitioners at large.

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**"A TREATISE ON SURGERY."** For students and practitioners. By American authors. Edited by Roswell Park, M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, Buffalo, New York. In two large and very handsome royal octavo volumes, copiously illustrated with engravings and full-page plates in colors. Lea Brothers & Co., New York and Philadelphia.

The early publication of Park's "Surgery by American Authors" will place in the hands of students and practitioners a work thoroughly reflecting the science and art of surgery in its most modern and cosmopolitan development, and fitly sustaining the honorable position universally accorded to America in the surgical world. The editor's recognized eminence has brought him the willing co-operation of gentlemen of the highest ability and experience, and his accurate acquaintance with their special lines of distinction has been skilfully utilized in the assignment of subjects, so that the work as a whole will be regarded as a production of the highest authority.

In point of richness and beauty of illustration Park's "Surgery" will mark a departure in surgical literature, the engravings and colored plates being largely original, and introduced wherever clearness and fullness of information can be aided by pictorial effect.

To attain the utmost convenience in use, the work will be divided, in accordance with the most modern views, into two volumes, one of which will deal with Surgical Pathology and General Surgery, and the other with Regional and Special Surgery. The advantages of this plan are too obvious to need presentation.

The following authors contribute to the work: William T. Belfield, Herbert L. Burrell, Edward H. Bradford, Arthur D. Bevan, Clarence J. Blake, Charles Stedman Bull, D. Bryson Delavan, Frederic S. Dennis, Duncan Eve, James H. Etheridge, John A. Fordyce, Frederic H. Gerrish, Arpad G. Gerster, Hobart Amory Hare, William A. Hardaway, James M. Holloway, Charles B. Kelsey, Robert W. Lovett, Rudolph Matas, Henry H. Mudd, Charles B. Nancrede, Roswell Park, Charles D. Parker, John Parmenter, Joseph Ransohoff, Maurice H. Richardson, Chauncey P. Smith, Edmond Souchon. Lea Bros. & Co., Publishers, Philadelphia and New York.

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CONSUMPTION: ITS NATURE, CAUSES, AND PREVENTION. With an outline of the principles of treatment for all classes of readers. By Edward Playter, M.D., M.C.P. and S. Ont., author of Playter's Physiology and Hygiene (authorized by the Ontario Education Department), editor of the *Canada Health Journal*, etc. Toronto: William Briggs, Wesley Buildings.

Dr. Playter, the author of this very instructive and interesting book, is well known throughout Canada as an authority on hygiene and kindred subjects in medicine. He considers consumption as slightly infectious, largely preventable, and frequently curable. We quite agree with his remarks on these points, especially as to the curability of the disease, and would like to see general practitioners endowed with greater faith in their therapeutic resources while they are treating it. After describing the physiology of the lungs, the author goes on to discuss the nature and causes of consumption. He devotes a number of chapters to causation, considering the subject from various points of view. He accepts the opinion that phthisis cannot develop without the tubercle bacillus, but thinks the bacillus can only produce the disease in "specially conditioned body tissues." He attaches great importance to the powers of resistance which exist in the healthy organism. The "predisposition" to consumption which exists in certain persons may be either inherited or acquired. In Part II. he discusses the very important subject of prevention, and advises strict attention to minute details relating to certain essentials pertaining to health, which enable the human body to successfully struggle against invading germs. He considers the measures of prevention under three heads: (1) Ordinary essentials of health—pure air, proper food, cleanliness, etc.; (2) Special methods for those who have inherited or acquired a predisposition to the disease; (3) Methods for those in the early stages of tuberculosis. In Part III. he discusses the treatment of consumption in a general way, without going

into special details. If preventive methods have been defective or ineffectual, and tubercle has actually been formed, he considers there is no specific remedy for the disease. In such cases the functions of digestion and assimilation have been disturbed, and each patient requires careful treatment, suitable to his own conditions.

As the title page indicates, this book has been written for all classes of readers, but it is certainly a very valuable work for a general practitioner in medicine. The style of writing is clear, and almost entirely free from technical terms. When, however, technical terms have been used, the author always takes care to give an explanation in *plain English*. We have much pleasure in recommending this treatise on consumption to those for whom it was intended—"all classes of readers."

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TAYLOR ON VENEREAL DISEASES. The Pathology and Treatment of Venereal Diseases. By Robert W. Taylor, A.M., M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. In one very handsome octavo volume of 1002 pages, with 230 engravings and 7 colored plates. Cloth, \$5.50; leather, \$5.50. Philadelphia: Lea Brothers & Co., Publishers, 1895.

The above work is one of the most praiseworthy publications that we know of. It is up-to-date in all branches of the subject treated, and the opinions expressed are not only the personal opinions of the author, but also are a résumé of the most advanced opinions of experts in this particular line of study. The study of venereal disease is altogether too cursory, and too little allusion is paid to it in a great many of the medical schools. The high standard of this work makes it more valuable therefore on that account. None better than Dr. R. W. Taylor could be found on the continent to write such a volume. He has had most unique advantages to closely study venereal disease and syphilis, and no trouble has been too great for him to undertake to thoroughly master their intricacies.

The introduction to the volume gives a very concise review of the many controversies between the dualists and unicists.

The main body of the work is divided into three parts:

The first part is devoted to gonorrhœa and its sequelæ. Taking up first the anatomy and physiology of the parts implicated, we cannot quite agree with the author that gonorrhœa can originate other than by gonococci, but are at one with him that other cocci may produce an inflammatory condition, but in our experience it is nothing like as virulent as true gonorrhœa.

The chapters devoted to stricture and its treatment are pregnant with sound advice. We also believe that too much cutting is done, much less in this day than a few years ago, but still too much. Gradual dilatation, properly done, is a treatment that will give good results in most cases. As the author says, fibrous and nodular stricture require the judicious use of the knife.

The second part is devoted to chaneroid. Here we are introduced to Dr. Bumstead and the author's investigations into chancroid in 1876, and he still claims that it has a specific virus. We believe that yet a specific bacillus will be isolated.



In the third part syphilis and its ravages are considered. The history of syphilitic infection and treatment are most thoroughly referred to. Excision of the initial lesion is not given as much prominence as we would like to see given to it. The pros and cons are not given in that free manner that we think they should be. We have shown that the coat-sleeve arrangement of the cells around the blood vessels is not pathognomonic in syphilis, and we do not agree with the assertion that "*the utter futility of aborting syphilis by excision of its initial lesion will be seen.*" With the treatment of syphilis we are at one with the author, and in the volume it is indeed placed in the most simple yet exhaustive manner.

The volume consists of over one thousand pages. The illustrations and colored plates are superior to most works on this subject, and a large number of them are original for the volume. The typography, paper, binding, etc., are a credit to the firm of Messrs. Lea Brothers & Co., and Dr. Taylor should be congratulated on having secured such liberal-minded publishers.

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Dr. A. Brothers, of New York, in the December number of the *American Journal of Obstetrics*, reports two cases illustrating the advantage to be derived from the Trendelenburg position in the treatment of prolapsed umbilical cord. An improvised incline is secured by turning an ordinary cane chair upside down on the bed and covering it with a pillow and sheet. The cord is seized by the hand and pushed back into the uterine cavity, and a piece of sponge previously boiled placed between the presenting part and the pelvic wall. The advantages of this position seem to be (1) greater comfort to the patient than in the knee-chest position; (2) slight increase in the antero-posterior diameter of the pelvis; (3) ease with which cord can be replaced and kept back with a fairly large piece of sponge, placed between the presenting part and the pelvic wall; (4) the ease with which the presenting head may be pushed up and a leg brought down; (5) the short time in which version may be done.

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THE "MONIST."—The April *Monist* opens with two articles on Roentgen's "X" rays by leading European scientists. Prof. Ernst Mach, of Vienna, describes a method of applying the new rays to an old device invented by him for taking stereoscopic or solid pictures of objects. Professor Schubert, of Hamburg, writes at length on the "X" rays, reviews in simple language their history, embracing the researches of Faraday, Geissler, Hittorf, Pluecker, Crookes, Lenard, and Roentgen; discusses the physical character of the rays; and, lastly, expounds the methods of work so successfully employed in the Hamburg State Laboratory.

Edward Atkinson, of Boston, practical financier and economist, writes a timely article on "The Philosophy of Money." A well-known Polish philosopher, W. Lutoslawski, of Kazan University, Russia, makes his début to the American public in a striking and original article, "In Search of True Beings," wherein he describes the philosophy of Polish individualism.

Remarkably fine is the contribution "From Animal to Man," by Professor Joseph Le Conte, of Berkeley, California. Professor Joseph Le Conte is one

of the foremost scientists and thinkers of America, and his work has all the marks of high native talent and broad scientific culture. Professor J. Clark Murray writes on "The Dualistic Conception of Nature," which depicts clearly and tersely the fortunes of dualistic notions both in philosophy and religion. More profound and technical is the article "Nature and the Individual Mind," by Prof. Kurd Lasswitz, a noted German philosopher.

The last article is a discussion of "The Nature of Pleasure and Pain," by Dr. Paul Carus, with particular reference to the theory of the famous psychologist, Prof. Th. Ribot.

The usual Literary Correspondence from foreign countries and a rich selection of book notices, etc., conclude this number, which takes equal rank with the brilliant numbers that have preceded it, and on which have appeared the names of Weismann, Ribot, Topinard, Lombroso, Romanes, and Lloyd Morgan. Single copies, 50 cents; annually, \$2.00. The Open Court Publishing Co., Chicago and London.

## Medical Items.

DR. A. W. MOODY has been appointed superintendent of the General Hospital at Winnipeg.

DR. RICHARD A. REEVE has been elected Dean of the Medical Faculty of the University of Toronto.

DR. J. ALGERNON TEMPLE, of Toronto, started on a trip to Great Britain and the Continent May 14.

DRS. NEW, Stevenson, English, and Belton have been appointed on the staff of the London General Hospital for the summer months.

DR. G. STERLING RYERSON, of Toronto, reached London, England, May 10. He expects to return to Canada about the middle of June.

DR. HOBBS, of the London Asylum for the Insane, has gone to New York to spend some weeks among the hospitals there as a further preparation for the continuance of his gynæcological work among the insane.

DR. W. H. B. AIKINS, at a regular meeting of the Senate of the University of Toronto, held in April, was elected a member of that body in the place of the late Dr. Laughlin McFarlane, the vote standing 19 to 10.

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THE CLUB DOCTOR.—Labor leaders may say what they will, the struggle for existence is keenest by far in the ranks of the professional class. Go lower, and you will rarely find the determined stand against contending odds which, for instance, the struggling doctor makes to earn a wretched living for himself and family. Few follow in Dickens' footsteps and write the quaint, pitiful romance of the shabby genteel, and yet there is infinite pathos in their sad efforts to keep the wolf from the door and their heads above the social slough into which Mrs. Grundy is longing to plunge them. Club doctors are the slave class of the medical profession. For a fixed salary of, at most, £100, they are bound down to a slavery from which there is no respite day or night. The members of the club may number some eight or nine hundred, and some of these or their families are in constant need of medical attendance. Ever at their beck and call, summoned on the most trifling occasions, their doctor must tramp the streets at all times and in all weathers. His bell is always jangling, and he comes home only to set out again. Backward and forward he plods along the grimy streets of the wretched suburb where his practice lies, passing only from one scene of squalid sickness to another, and forced to use his poor remedies where rest and generous diet are alone needed. All the



year round he keeps at his work with a desperate, pathetic courage ; he dares not leave it, for he is never without rivals ready to take his wretched clients from him, and he is far too poor to pay a substitute. No wonder that nature sometimes takes her revenge for an overworked body and exhausted brain, and that the club doctor finds his hands and head at fault, and takes a life where he has saved thousands. If he were but an overworked signalman, a thousand voices would cry "Shame !" But he is only a doctor, and has no right to share the mortal weakness he must cure in others. Ruin and disgrace will be his portion, and the scathing comments of the public press on his "criminal carelessness" will block his way to gaining a living by his profession for the future.—*St. James' Gazette*.

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ECCHYMOSES FROM NATURAL CAUSES.—It is now a well-recognized fact that more or less considerable extravasations of blood may take place beneath the skin or of the mucosæ, or on to the surface of the internal viscera, from purely physiological causes, giving rise, however, to appearances which might easily be mistaken for the results of violence in some form or another. The possibly natural origin of such ecchymoses seems only to have been recognized within the last decade or two, and this fact suggests some uncomfortable thoughts concerning probable injustice to accused persons in the past. When a certain French medico-legal authority first called attention to petechial ecchymosis on the surfaces of the lungs, it was for the purpose of promulgating the view that they afforded evidence of death from suffocation in one or other of its forms. This has since been proved not to be the case, for they have been met with in connection with the action of particular poisons, particularly those belonging to the benzine series, as well as after death from burns, etc. Although these extravasations thus lose the diagnostic value which had been attributed to them, the subject is one well worthy of attention in order that full light may be thrown upon the mechanism of their production. For instance, they are not unlikely to occur in the insane, and in this event their presence on the skin would not unnaturally give rise to unfounded suspicions of violence at the hands of the attendants. In a paper dealing with this subject at a recent meeting of the Royal Medical and Chirurgical Society, Dr. Lediard laid particular stress upon the possibility of such ecchymoses on the mucous membrane of the vulva and vagina leading to the presumption of rape. Their position in the body, their delicacy of structure, and their vascularity render this portion of the female anatomy peculiarly liable to exhibit punctiform ecchymoses in virtue of the same causes that determine their appearance elsewhere. Mr. Hutchinson quoted a striking instance of the production of extensive ecchymoses in an elderly gentleman as the result of an attack of whooping cough contracted from his grandchild. As any medical man is liable to be called upon to discharge the delicate and responsible functions of medical assessor in criminal cases, it is highly desirable that a knowledge of this curious phenomenon should be widely disseminated, for it is not difficult to imagine various circumstances in which these ecchymoses would probably be ascribed to violence or asphyxia, instead of to their real cause, whatever that might be in the particular case.—*Medical Press and Circular*, February 12, 1896.

A SURGEON'S EYE.—The human eye has many unspeakable gifts, some of which unmistakably add to its attractiveness, and some do not. Our readers will probably be interested to learn what a surgeon at a large London hospital thinks of the eye which distinguished a late colleague, whose personality has often been the subject of admiration. In an able, thoughtful "In Memoriam" notice of Sir William Savory, contributed to the new volume of "St. Bartholomew's Hospital Reports," Mr. Howard Marsh writes as follows: "His (Savory's) eye was pale blue, inclining to be gray. Its general expression was that of calm intelligence, but it was singularly expressive, and its range of expression was remarkable. It is a truism to say that the eye often discloses the whole man, and that the more remarkable the man the more telling is the eye. Savory's eye was clear, steady, and alert; it seemed to give a pledge more binding than any words; it could be eloquent in thanks, it could convey generous approval. These were its quiet moments. But in an instant it became all aglow, and expressive, as the occasion ruled, of keen attention, intense amusement, or blank incredulity; or it would cloud over and darken, and launch a sudden ultimatum. Steele, in the *Spectator*, tells us that he has seen an eyebrow call a man a scoundrel. Savory's eye, at all events, till years brought larger tolerance and restraint, not only pronounced sentence, but it passed on to slay the enemy where he stood." All old Bartholomew's men who were students in Savory's time will appreciate the truths contained in these remarks. The slaying process was one which was not infrequently seen. The scene was usually the operating theatre, and the time Thursday afternoons, when the consultations were held. Savory was, perhaps, intolerant of any diversity of opinion when it applied to himself. There were occasions at these consultations when his opinion was entirely in a minority, the minority being represented by himself. It was then that the slaying process was displayed in the fullness of its power. Like a flock of sheep, as it appeared to Savory, colleague after colleague would reiterate with worrying monotony the opinion expressed on the case by the senior colleague who spoke first. At last the most junior colleague on the staff would give his verdict in the same terms, and then it was that the color would come and go in Savory's face, that the eyes would flash, and the trembling features show the tumult of his feelings. These were sights for students to see and remember, and they have been vividly recalled by the description quoted above from Mr. Marsh's notice. Still, Savory was a worthy successor of Lawrence, and the power that he swayed was, perhaps, equally as great. But with him there died the régime of mannerism of which the model and type was Lawrence.

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DR. T. J. NORMAN KING has been appointed associate coroner for the county of York.

DR. SAMUEL STEWART, of Thamesville, associate coroner for the county of Kent, in the place of Dr. G. A. Tye, deceased.

DR. HARRY S. MARTIN, of Erin, associate coroner for the county of Wellington, in the place of Dr. Henry McNaughton, deceased.

DR. ROLAND K. KILBORN, associate coroner for the county of Frontenac, in the place of Dr. H. J. Saunders, deceased.

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OBITUARY.

ROBERT MCGEE, M.D.—Dr. McGee practised in Midland for a time; but on account of poor health went, about six months ago, to El Paso, Texas, where he died, April 10, 1896. The body was brought to Collingwood for burial.

JOHN SANGSTER ATKINSON.—Dr. Atkinson, son of the late William Atkinson, of Hamilton, died on Monday at the residence of his brother-in-law, Lieut.-Col. Moore, of Hamilton, where he had been visiting. Deceased had been practising his profession for a number of years at Gananoque, but some months ago, owing to failing health, he went to Hamilton.

FRANCIS RAE, M.D.—Dr. Francis Rae died suddenly at his home in Oshawa on Friday morning, May 8, from apoplexy. He was seized with pain in his head about 7 a.m., and proceeded to bathe it with cold water. He soon became profoundly depressed, sank rapidly, and died in about two hours. He was born in Stouffville, and received his medical education in the Toronto School of Medicine. During his college life he spent a good portion of his time in the office of Dr. H. H. Wright. He graduated in the University of Toronto in 1865, and commenced practice in Oshawa during the same year. He was for several years a partner of the late Dr. McGill, and always did a large practice until a few weeks ago, when he was appointed registrar of Ontario county. His friends were highly pleased with the appointment, and fondly hoped that Dr. Rae would live for many years to enjoy a comparative rest after thirty years of very laborious work.

To the large number of intimate friends who knew him as "Frank Rae," the sad news of his death was a great shock, and produced the most profound sorrow. He was loved—not liked—by his intimate associates, in and out of the profession. He was without doubt the most popular man that ever lived in Oshawa. He was reeve or mayor of the town for so long a time that he was known as "our perpetual mayor." He was an active Reformer in politics, and contested South Ontario in the general election of 1887. He was defeated, notwithstanding his great personal popularity; but it was generally conceded that he was the strongest man of his party in the riding. He was prominent in many societies, including the Masonic body and the Independent Order of Oddfellows. He was also surgeon of the Ontario Battalion of Infantry for many years. He was generally recognized as one of the leading physicians in Ontario, and was for fourteen years one of the most earnest and active members of our Provincial Board of Health.







SKIAGRAPH OF FÆTUS

Between seven and eight months, showing points of ossification.

Taken by EDMUND E. KING, M.D.

Time of exposure, 35 minutes.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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### ADDRESS OF THE PRESIDENT OF THE ONTARIO MEDICAL ASSOCIATION.\*

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FREDERICK LEM. GRASETT, M.D.,  
TORONTO.

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**I**T is the usual custom in this association, in common with others like it, that the man whom you have elected to the honorable position of president shall deliver a presidential address. This early reminds the holder that he has responsibilities as well as honors placed upon his shoulders, sufficiently serious to interfere, in some measure, with the full enjoyment of the honor. So keenly was I alive to these responsibilities that I had very considerable misgivings as to my sufficient fitness for it. On the other hand, I had from many of the older and most experienced members assurances of their cordial support and assistance. I wish to say that these promises have not been mere empty words, and I take this early opportunity of expressing to them my warmest thanks for their loyal co-operation in endeavoring to make this sixteenth meeting of the Ontario Medical Asso-

\*Delivered at the meeting held in Windsor, June 3 and 4.



ciation as conspicuous a success as so many of its annual meetings have been. This year, owing to the kind invitation extended by the profession of Windsor, endorsed by the city council and others, the association decided, after a thorough discussion, to alter for this year the place of meeting. I confess to a feeling of doubt as to the wisdom of changing from a central point like Toronto, so readily accessible from all parts of the province, the centre of all forms of educational work in the province, to a city at the extreme western boundary ; but once the matter was so decided most of the men felt that a special effort was incumbent upon them to overcome any possible or fancied difficulty. The local committee have, I find, left nothing undone by wise thoughtfulness in their arrangements to ensure the success of our meeting. You will find, on reference to the programme, that an active committee on business and papers has provided an ample and diversified bill of fare ; let each member appropriate his own particular pabulum, giving out as well as receiving, and thus a full benefit will accrue to all.

Our association aims at bringing together men from all parts of the province (and this time a special contingent of the profession across the border, to whom we extend a most hearty welcome); men in the same profession, it is true, but yet whose paths are widely diversified, embracing the much-sought-after specialist, with difficulty dragged from his comfortable office and his large fees, as well as the general practitioner, the rank and file of our profession, in many cases an overworked, underpaid man, who finds it not easy to take even the few days necessary to attend such a meeting as this, those in official positions and those non-official, yet all animated by one spirit, and having one common object in view, viz., to battle with disease, to relieve suffering, to save life, to promote the welfare and health of the people. Noble ends, noble aims! may our discussions tend to further them, may they be mutually helpful, mutually stimulating, so that each of us, in his own sphere, may be encouraged to do all that in him lies to elevate, improve, and uphold the noble profession to which we belong. More than this, a meeting like this brings men into close and kindly personal relation, cements old friendship, lays the foundations of new ones, enables us to meet face to face those whom we have never seen, and yet by whose writings we feel as if they were not entirely strangers to us. It allows, by the comparing of experiences, and putting on record much valuable material that would otherwise be lost, the addition of something, however small, to the sum total of medical knowledge. The enduring records of medical science are slowly and laboriously aggregated together, and much sifting may be necessary in order to separate the grain from the chaff. I think we all may feel a sense of gratification that our province is not behind in this regard. In Toronto we have three flourishing medical societies. I

note the frequent meetings of various territorial medical societies, that they are well attended, thoughtful papers read, keen discussion follows. All this cannot fail to elevate the profession, to raise it in public estimation, convincing them that its members are not merely bread-and-butter earners, but scientific, enlightened men, ever seeking light, ever striving for the truth.

It is rarely that the president is not called upon to notice the decease of some prominent member of the association. This year, I grieve to say, our losses by death have been unusually numerous and sad. Only two years ago Dr. Lachlan Macfarlane occupied the presidential chair, charming us all by his manly dignity and kindliness. Struck down in the vigor of health, in the performance of his duty, by the poison of a case of gangrene, absorbed from a slight puncture with a needle, in the successful effort to save by operation the life of a poor hospital patient, his sudden removal creates a gap not easily to be filled. If, when a soldier risks his life in carrying a disabled comrade out of action, and therefore is decorated with the Victoria cross, we rejoice at the bravery that called for such reward, ought we not to highly honor the memory of one of our profession who quite as bravely lost his life in the performance of duty, by unavoidable mischance?

Two others, earnest workers and office-bearers in the past in this association also, have passed away in the full vigor of manhood and in the height of their professional career. Dr. K. N. Fenwick was another victim of blood poisoning under very similar circumstances to those of Dr. Macfarlane. A slight cut of the finger while operating on a case of septic peritonitis, and within a week the poison had accomplished its deadly work. His memory will long be cherished in Kingston and its vicinity. Dr. H. J. Sanders, also of Kingston, succumbed to an attack of septic pneumonia, the sequelæ of a septic throat. A hard worker in the actual practice of his profession, painstaking, thorough, he kept himself in touch with every advance of medicine. Much beloved by all who sought his advice and aid, in his death our association suffers a severe loss.

Turning for a brief period to medical topics specially affecting us in this province, I note two that have lately provoked a good deal of discussion. Matriculation in medicine in Ontario has lately been in an anomalous state. The Medical Council, in requiring a special certificate and none other, inflicted undeniable hardship in some cases. The growing feeling of discontent has been met by a compact which will almost certainly go into force at the next meeting of the council. Shortly, it is that the standard, which was to have been raised a good deal in 1897, remains the same as at present, and cannot be raised without the sanction of the Lieutenant-Governor in council; also the council will accept a certi-

ificate of matriculation in arts from the registrar of any Canadian university, together with proof of having passed the examination in arts at the end of the first year. Provision is also made for students to pass a preliminary examination who failed previous to entering on the study of medicine. This more liberal policy is more in accord with that insisted upon by the General Medical Council of the United Kingdom. That body accepts the matriculation certificates of a number of examining boards, nineteen at least, as equivalent to their own, thus affirming, I think, that matriculation, as a test that a candidate is fitted to enter on his professional studies, may be accepted by them when such examination is in all respects equivalent to the standard they require. Let us hope this much-discussed question is settled now for many years. The second is the proposed lengthening of the medical session, making it eight instead six months, and reducing the number of years from five to four ; also abolishing the one summer session at present obligatory. Such a plan has much to recommend it, looked at from the students' as well as the teachers' standpoint. Everyone is aware that much more work is exacted from the medical student of to-day than from those who studied even ten years ago. More work means more time ; this the students complain they cannot have in the present session of a little over five months, not that there is any desire to increase the number of lectures, but it should be so arranged as to allow methods, practical and clinical, to have fuller scope. Again, the teacher of a didactic or even a clinical course has at present to crowd all his work into too short a period. This arrangement would make a change in this, and also allow him now and then to go to other schools while in session, observe their methods, see their hospital practice, and fit himself more efficiently for his work. As at present arranged, such visits to foreign hospitals or laboratories can only be made in summer, at which time many are closed or in charge of assistants. The measure of benefit is consequently so reduced as to make it doubtful if it be worth such an effort to obtain it. Reciprocity between Canada and the United Kingdom is every now and then discussed, but has so far yielded no practical result. I understand that the Canadian Medical Association appointed at its last meeting a committee to report on the subject. It is difficult to see how this very desirable result can be obtained unless, first of all, we secure registration between the several provinces of the Dominion. If a graduate of Ontario, passing with the highest honor at the Provincial University, stamped with the hall mark of the College of Physicians and Surgeons of Ontario, cannot legally practise his profession in Quebec province, in older Canada, to say nothing of the newer and more distant provinces that comprise the Dominion, how can we ask with any reasonableness reciprocal registration from Britain ? Let us begin at home. See if the difficulties to interprovincial



registration are insuperable ; if that is overcome, I do not think there will be much trouble in securing the recognition of our qualifications, and the inscribing of the names of our men on the medical register of the United Kingdom.

Not quite fifteen years ago Koch announced to the world his great discovery, that a specific bacillus is the primary cause of tuberculosis, establishing as an undoubted fact what many had even before thus regarded as highly probable.

All objections that this characteristic bacillus was not the cause of the disease were by the multiplicity of confirmatory evidence, in all parts of the world, completely met ; in the same way the infectious nature of the virus being completely established, not only by inoculation in susceptible subjects, but also by contact of an unprotected surface and matter holding the specific germ. If the infectious element in tuberculosis abides in the secretions of the part affected, is it not wise to control this avenue of propagation without unduly pressing on the patient and his friends ? How far this is desirable, all at once, is a question ; perhaps for the present it is wiser to educate and enlighten the mass of the people on this subject, pointing out in simple, unmistakable terms the nature of the disease, how easily it is communicated, how one can best protect himself and his friends from the spread of the disease, leaving for the future any more radical action. This year sees a beginning made in measures for the sanitarium treatment of cases of tuberculosis in our own country. The National Sanitarium Association has been incorporated. A board of wealthy and influential men in different parts of the country has been chosen its directors. Before long we hope to see, not in Muskoka only, but also in Rocky Mountain sections of our Northwest, several buildings specially erected on favorable spots to relieve and benefit, and often cure, those whom without such surroundings could have nothing to hope for, but await the lingering, inevitable end. Already the association has received pledges of \$70,000 for its purposes. A most satisfactory and well-sheltered site of forty acres of bush land near Gravenhurst has been secured, with the option of purchasing thirty additional acres adjoining. Plans have been drawn, contracts let, and before long the first cottage of our Canadian sanitarium for tuberculosis will be erected. The ever-increasing mortality from tuberculosis, like a plague, marks, it is estimated, one in seven for destruction. The failure of all so-called specific treatment for this disease, and the amazing results secured by the advocates of the hygienic and dietetic treatment in these sanitariums built exclusively for consumptives, makes one glad that at last we shall have such a one at our own doors. The idea of such treatment is not new. It has been used since Hippocrates, and many places in Switzerland, Germany, England, and elsewhere have long

been used in this way. I believe it may be set down to the credit of the United States that the Adirondack College Hospital at Saranac Lake, New York, was one of the first of these institutions to open its doors to the poorer class among phthisical patients. I can myself bear testimony in my own experience to the great good my patients have received from a residence in the Adirondacks at this place. Dr. Osler recently said : " We are finding Dr. Trudeau's sanitarium in the Adirondacks a perfect godsend. Why, I can put my hand on not less than a dozen young men whom we sent there with undoubted phthisis, who were returned to us well, and who remain well." I do not wish to intrude upon the address in medicine, which deals with the treatment of tuberculosis, but I could not refrain from referring to the beginning of the sanitarium treatment in our province. Turning from things chiefly affecting us locally, and upon which, perhaps, I have spent so much time as to leave me open to the charge of being narrow and provincial, to the wider field of our profession, what do we see? Advances made in nearly every department.

The whole scientific world has lately been aroused to a high pitch of excitement by the recent wonderful discovery of Prof. Roentgen, of Wurzburg, that it is possible to produce photographic effects through opaque substances such as wood, flesh, and other dense materials, while glass, usually considered the most transparent of media, obstructed the passage of the cathode rays. Photography has long been useful in medicine and surgery, in accurately reproducing deformities and cases with marked physical characteristics; also photographs, colored, of skin affections, give a more correct idea of such cases than any of the best artists can create, but this new departure in photography is a most signal advance indeed, and may possibly be one of the most valuable aids in diagnosis that in recent years has been produced. Just consider: if these rays will penetrate the body as easily as they do the hand, we can solve problems by such aid that no amount of skill and care can now accurately settle. Thus we may hope to see calculi in the kidney, foreign bodies in any of the internal viscera, tuberculous disease in the bone, calcareous degeneration of vessels, or some equally definite results. I am glad to say a practical demonstration of this important subject is to be given at this meeting. It has been said that in the world's history the nineteenth will ever be known as the great scientific century, when the human mind first gained its great mastery over the forces of nature, and compelled her to reveal some of her greatest secrets. The sciences akin to medicine have made rapid progress, and rational medicine no longer guesses and gropes in the dark, but, helped by scientific methods of enquiry, is ever gaining deeper and broader knowledge. Among the departments of medicine surgery has ever held a foremost place. By the very nature of his art the surgeon can render greater help than the physician, fighting, as the latter does,



chiefly with internal diseases. Modern surgery can safely conduct operations that formerly could not be even entertained. Why? mainly because of the treatment of wounds, especially those produced during such operations. It was by sciences (akin to the medicine) that this was brought about. Pasteur, a chemist, studies with close attention the yeast fungus, the resolution of sugar into alcohol, and carbonic acid is found, due to its disturbing influence. Putrefaction is found to be an analogous process. Lister perceives the surgical importance of Pasteur's researches, and with the germ theory as a pole star he navigates his treatment safely through difficulties that, without this guiding light, would have been insurmountable. As his pupil and house-surgeon in Edinburgh in those early days of antiseptic surgery, it would be a labor of love to dwell on this topic, but time will not permit. Within the last few years cerebral or intracranial surgery has made more striking advances, I think, than any other. I do not wonder at our long night of ignorance in regard to the brain and its functions. It is an organ so difficult to investigate, so shut in and protected by its bony case, that it has long kept its own secrets. During the last twenty years, by close clinical observation, by experiments on animals of the higher vertebrates, much has been done to map out and localize definite centres connected with motion, or temperature, or pain or special sense. Thus has the surgeon been able to remove tumors, evacuate abscesses, and conduct operations successfully which a few years ago would have been regarded as hopeless. In this success the physician has his share. His duty is to locate the seat of mischief, in many cases to advise for or against operation, to aid in every way the surgeon in this difficult department of our art. Abdominal and pelvic surgery has so developed that no organ, however humble in that region, is passed over as unworthy of attention. Much ingenuity has been exercised in operating on the gastro-intestinal tract, and many improvements in technique, if not in principle, suggested. Perhaps to the general surgeon among the most interesting departures in operative treatment is that of Dr. J. William White, of Philadelphia, for the relief of prostatic enlargement by double orchidectomy. It is a measure of relief for that affection so completely different from anything before used in similar cases; hitherto the prevalent idea being that attention and action must be concentrated on the prostate itself; that section of it, or removal of such an amount as might be necessary for the required relief, was the proper course. This new procedure is a little startling at first, even to the surgeon. I find it more so to the patient. Yet I believe, in rightly chosen cases, it is a valuable idea, one that has passed through its probation, and has, in all probability, taken its place among recognized surgical operations. There are many interesting changes and improvements in surgical work, but time warns us to hurry on. Medicine advances steady-



ly, if not by such leaps and bounds as surgery, in some directions these advances are more readily perceived than in others. Therapeutics, ever presenting difficult problems in correctly understanding the actions of drugs, has been greatly helped by the study of the physiological actions of such drugs, as pertaining to the right understanding of their therapeutic effects. It is well that this other method of gaining such knowledge has thus been added to the old plan of observing how drugs act in disease. Had we not the advantage of physiological pharmacology, many new remedies would run the risk of being consigned to oblivion that now rank among the most valuable of recent times. It is in preventive medicine the most signal advance has been made and the greatest triumphs of modern medicine won. Prevention is always better than cure. It is better to keep the enemy from entering the fortress than to fight him, even successfully, after he has entered. Bacteriological research has greatly stimulated preventive medicine by demonstrating the absolute necessity for pure water, pure air, cleanliness, purity of nourishment—liquid and solid. But it has done much more. By showing that many diseases result from microbic affection, it indicates that the true solution of their treatment is to be sought in modifying the character of the microbes and their products, so that immunity may result by the inoculation of a weakened virus. In how slow and laborious a manner has this knowledge been acquired! Foreshadowed many years ago in the far East, in the practice of inoculation of the smallpox virus under the skin, that a milder disease might result, and immunity be secured from a subsequent attack. A gigantic forward stride was made when Jenner's observation showed that cowpox is but a mild form of smallpox, that vaccination is a safeguard against this loathsome disease; but this may be regarded as the dawning of the day of bacteriological investigation and research, a field in which many acute minds are busy workers; by whose exertions many new secrets are being almost hourly wrested from nature's jealous keeping. But, gentlemen, I feel I must no longer trench upon your patience and good nature. Ere I close, let me express the hope that many will freely discuss the papers presented. In this association free discussion has ever been our rule. Sharp, pungent criticism is often given. Equally energetic is the reply made in defence of some pet theory or view; but always the best of feeling and harmony reigns. Such discussion assists us out of any routine groove into which the best of us are liable to fall, forces upon us the necessity to occasionally examine ourselves—to compare now with the past; to see to it that we do not retrograde or remain stationary, but be ever striving to improve in our better understanding of nature and her laws. If this broadening of our knowledge is associated with a true love of our profession, devotion to our sacred and honorable duties, we are sure to be useful to our fellow-men, and in our generation.

## TONGUE-LIKE ACCESSORY LOBES OF THE LIVER.\*

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THE chief interest in this subject is in connection with the diagnosis of abdominal tumors. Unless fully alive to the great variety, as to shape and position, in which these accessory lobes of the liver may present themselves, one will often be misled in the diagnosis of abdominal tumors. In not a few cases, even with the utmost care, a positive opinion as to the nature of these tumors cannot be given.

Riedel, who first drew attention to the importance of these abnormal lobes, believes them to be due usually to pressure on the liver, as in tight lacing, and to traction, by an enlarged gall bladder. They are met with usually in women. In nine of his twelve cases the gall bladder was attached to the lower part of the process.

So far as can be inferred from the seven or eight cases with which I have met, tight lacing has little to do with the production of the deformity, and the position of the gall bladder at the lower part of the mass is an accident rather than a cause of its formation. In many, if not most, cases the formation of these lobes seems to be developmental, having nothing to do with either pressure or traction.

CASE I. A woman, *æt.* 42, was admitted, under my care, to the Toronto General Hospital, October, 1894. She was very anæmic and considerably emaciated. She complained of much pain in the abdomen, and frequently vomited after meals. There were also irregular pains in various parts of the body. She was very nervous, pulse quickened and temperature normal. The symptoms were those of well-marked neurasthenia, with nervous dyspepsia and constipation. The abdomen was rather full and tender in all parts, but especially so to the right below the costal margin, where a tumor-like mass could be felt. Over this the percussion note was dull; elsewhere the abdomen was tympanitic. This mass was about four inches broad, and extended from the costal margin to about one inch below the line of the umbilicus. Its lateral and inferior

\* Read at the meeting of the Ontario Medical Association at Windsor, June 3, 1896.

margins were distinct, but the upper could not be felt, and the note over it was slightly resonant. The tumor could not be traced to the liver, the flat note of which ceased at the costal margin. The mass felt smooth, semi-elastic, and could be moved from side to side about one inch. It was very tender to manipulation. From behind its lower border, near the inner margin, a rounded secondary mass projected about an inch ; it was adherent to the main mass. The whole descended slightly with inspiration, and could not be held down during expiration. But the tenderness and the slight degree of abdominal respiration rendered it difficult to demonstrate respiratory movements in the tumor. The right kidney was not palpable. The urine was normal. An exploratory operation was

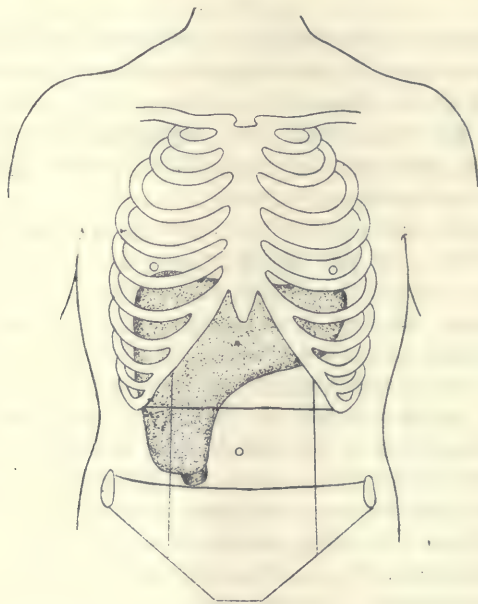


FIG. 1.

deemed advisable, and Dr. I. H. Cameron opened the abdomen, to find a broad, thin process of the liver extending down below the umbilicus, as shown in the diagram (Fig. 1). Behind this process, and adherent to it, lay the right kidney, forming the rounded mass projecting from the lower margin.

CASE 2. A woman, aged about 45, with symptoms much like the foregoing. As shown in the diagram (Fig. 2), the liver process was narrow and extended down close to the umbilicus. It was very freely movable from side to side. In this case also the lower part lay in close contact to the abdominal wall, while the upper part receded, and could not be traced



to its connection with the liver. From the inner part of the lower end projected slightly the gall bladder, which was normal and could not have had anything to do with the formation of the process.

CASE 3. A woman with process closely resembling that in Case 2. The gall bladder was not seen ; if attached, it was situated behind.

CASE 4. Mrs. F., the wife of a physician, was never robust. Her menses were painful and often profuse. She became ill in January, 1895. The flow was so free that it was thought that she had possibly miscarried. In a few days the temperature rose slightly, and tenderness and slight fullness were found to the right and behind the uterus, down close to the cervix. There was not much change in the symptoms for some days, then she

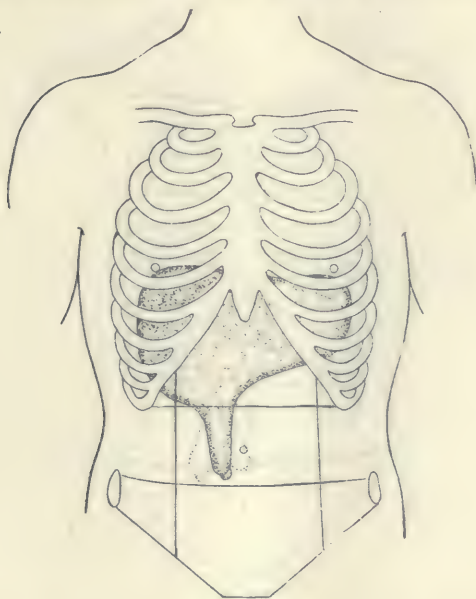


FIG. 2.

improved, the tenderness and fullness gradually disappeared with the discharge of a little pus beside the cervix. The temperature became normal, and she improved somewhat for a few days. Then fever returned again ; nothing could be found in the pelvis to account for it. The urine had been normal. In the right lumbar region there was some tenderness, and a fairly well-defined mass could be felt extending down nearly to the crest of the ilium. A few days later the urine contained some albumin, with a few pus cells. The temperature remained variable, but not high. Her condition was very unsatisfactory, and caused much anxiety. Two days later there was a copious discharge of pus and blood in the urine. There

were many clots and yellowish-black masses of thick pus and blood, due undoubtedly to the discharge of a fairly large abscess into the urinary tract. The mass in the right lumbar region remained unaltered. There was tenderness along the course of the ureter, and possibly some thickening. No signs of abscess in the pelvis could be found. The urine became increasingly clear daily, but the amount of albumin remained high, apparently more than would be accounted for by the amount of pus present. The inevitable conclusion seemed to be that there was an abscess in connection with the right kidney, and that the mass situated there resulted from it, yet its mobility and unaltered size and shape seemed to negative that opinion. As improvement was not satisfactory, an operation for the

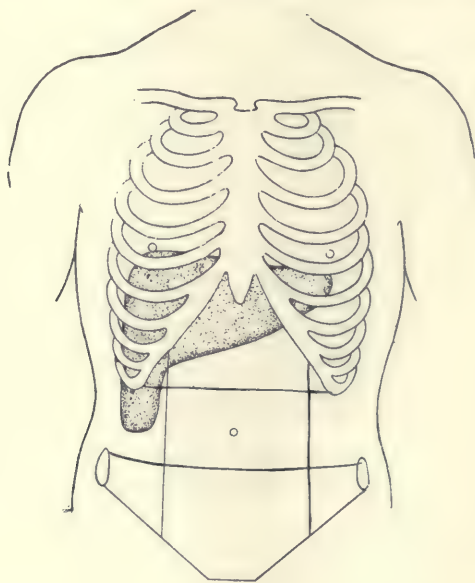


FIG. 3.

purpose of exploring the mass was done by Drs. I. H. Cameron, Uzziel Ogden, and Alexander Primrose. When exposed the mass was found to consist of a tongue-like lobe of the liver (Fig. 3), behind which lay the right kidney, which was to all appearance healthy. The situation of the abscess was not ascertained, but was probably somewhere about the pelvic brim. There was gradual improvement after the operation, and in a month the urine was normal. Her health improved very slowly, and even yet is not very satisfactory.

CASE 5. Babe G., aged eleven months, the child of a physician. Took ill on Wednesday with disturbed digestion. Improved, but became ill

again on Saturday, and grew rapidly worse. The temperature was high, and bowels could not be made to move even with strong purgatives. I saw the child, with my friend, Dr. Machell, on Saturday evening. The child was then in great distress, had vomited some, was very pallid, tossing about, and crying out. He was very thirsty. The pulse was very rapid and weak. The abdomen was not much distended. There was no specially tender part. There was a small motion of green mucus with a little fæcal matter in his napkin. He was straining a good deal from time to time. Examination of the abdomen revealed nothing unusual, except a small elongated mass in the region of the ascending colon. It extended from the costal margin down nearly to the iliac crest. It moved with

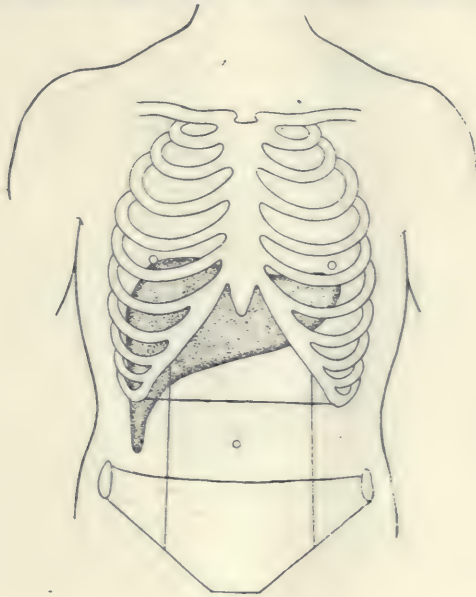


FIG. 4.

respiration, was firm and dull on percussion. The abdomen was everywhere else tympanitic. The possibility of an intussusception occurred to us, although the absence of blood, the very slight amount of mucus in the stool, and the slight tenesmus seemed to negative that opinion. As there appeared to be no other hope of relief, an operation was advised, an opinion in which the father acquiesced. Dr. George A. Peters operated, and the finger-like mass was found to be the edge of an accessory lobe of the liver (Fig. 4). The abdominal organs appeared healthy. There was no exudation in the peritoneal cavity. The child seemed none the worse of the examination. Death occurred next day,



and it was suggested that the case was one of hæmorrhagic pancreatitis, a diagnosis that was confirmed by the autopsy.

CASE 6. Wm. H., æt. 36. A builder. Consulted me in October, 1895, complaining of flatulent dyspepsia. He had pleural adhesion with considerable retraction on the left side of indefinite but recent occurrence. Careful examination showed a dull resistant mass in the epigastric region, over the situation of the pylorus. The abdominal muscles were so tense that the exact shape and character of the thickening could not be determined at first. Examination of stomach contents after a trial breakfast was made; the residue was large (120 c.c.'s) and contained no free hydrochloric acid; there was a good deal of gas in the stomach. There was no

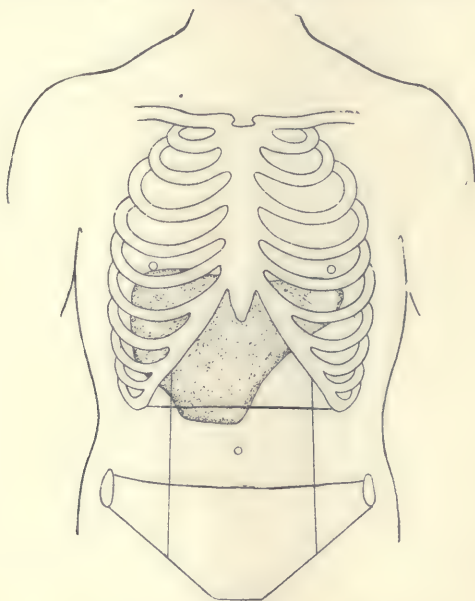


FIG. 5.

nausea or vomiting. There was uncomfortable distress and some pain after food, relieved by belching gas. He had lost a good deal of flesh. In the result of examination, as given, was sufficient ground for anxiety, as the existence of carcinoma was a grave possibility. The result of treatment was not very satisfactory for some weeks, as there was little improvement, and this strengthened the possibility of malignant disease. Three months later he was some better, however, and the abdomen was quite relaxed. The mass in the epigastrium was found to be broad, smooth, and with a sharply defined liver-like edge on its right and lower margins, but lost to the left under the rectus muscle, where there was stomach resonance, while the right part was dull on percussion (Fig. 5). The mass moved freely with

respiration. There was no doubt that this was a process of the liver. This gentleman's health has since then greatly improved, and he was in very fine condition last month, when he left for Europe.

CASE 7. Laura R., æt. 21. She was never robust. She had what seemed to be typhoid fever last September, followed by a protracted convalescence. A month later on being seen there was some exudation in the right pleura, probably chiefly plastic. The general prostration was more in keeping with pneumonia, very possibly of tuberculous origin. Her sister had died the previous year of acute miliary tuberculosis. She again recovered very slowly, and in February a copious ascitic exudate was found to exist. It interfered with her comfort and respiration ; otherwise she was fairly well.

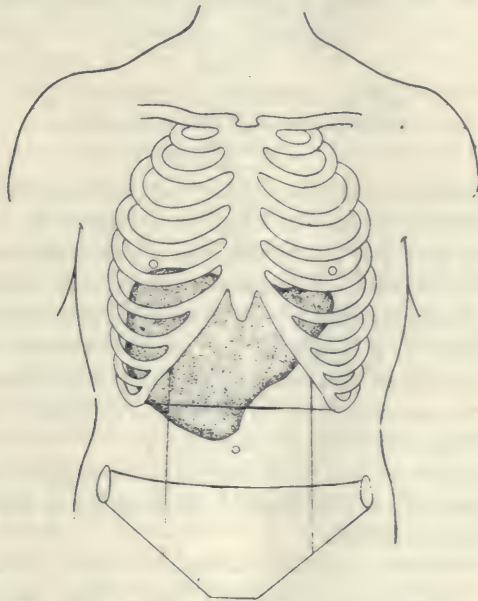


FIG. 6.

The temperature was normal ; appetite, fair. The fluid increasing slowly, a small trocar was inserted and six pints of serum withdrawn. It reaccumulated, and in April Dr. Alexander Primrose did a section in order to explore the peritoneal cavity. It was thought probable that the condition was tubercular, but the peritoneum was healthy. A broad, thin lobe was found to descend from the anterior margin of the liver to the crest of the ilium (Fig. 6). It presented a healthy appearance. It had not been discovered before because the abdominal wall was rather thick. This lobe of the liver can have nothing to do with the occurrence of the ascites. On May 22 she required to be tapped again,  $5\frac{1}{2}$  pints being withdrawn. Her general health has, however, improved very fairly.

## Selected Articles.

### THE TREATMENT OF THE HÆMORRHAGES AND URTICARIAS WHICH ARE ASSOCIATED WITH DEFICIENT BLOOD COAGULABILITY.

BY A. E. WRIGHT, M.D. DUBL.,  
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NETLEY.

I HAVE in previous communications\* directed attention to the fact that the coagulability of the blood can be increased (1) by calcium salts, (2) by carbonic acid, and (3) by solutions of cell nucleo-albumins (Woolridge's tissue fibrinogens). I propose in the present communication first to amplify certain statements I have made upon these subjects; secondly, to direct attention to a simple method of administering carbonic acid; and, thirdly, to suggest that calcium chloride may prove useful in the treatment of urticaria, wherever the urticarious eruption is associated with a condition of diminished blood coagulability.

The following cases may be of interest as showing the increase of blood coagulability which can be obtained in hæmophilia by the internal administration of calcium chloride:

| Patient.                                  | Age   | Date of antecedent blood examination. | Coagulation time in standard tube (temp. 18.5°C.). | Amount of Ca Cl <sub>2</sub> administered. | Date of subsequent blood examination. | Coagulation time in standard tube (temp. 18.5°C.). |
|---|-------|---------------------------------------|--|--|---------------------------------------|--|
| Boy (very severe hæmophilia)              | 9 ys. | April 13, 1894                        | Exceeds 54 minutes.                                | Two 2 gm. doses                            | April 14, '94                         | 25 minutes   |
|   |       |                                       |  | Two 2 gm. doses                            | April 15, '94                         | 13½ minutes  |
|   |       | Sept. 28, 1894                        | 14 minutes   | Two 0.6 gm doses                           | Sep. 29, '94                          | 6½ minutes   |
| Brother of above (less severe hæmophilia) | 7 ys. | April 13, 1894                        | 7 minutes  | Two 2 gm. doses                            | April 14, '94                         | 4 minutes  |
|   |       | Sept: 28, 1894                        | 9½ minutes.  | One 0.6 gm. dose                           | Sep. 29, '94                          | 5½ minutes   |

\* (1) Brit. Med. Jour., Dec. 19, 1891; (2) Proceedings of the Royal Society, vol. lv., 1894; Brit. Med. Jour., July 14, 1894.



It is to be noted that the augmentation of coagulability which is here recorded was not in either case a permanent augmentation of coagulability. In these, as in all other cases of hæmophilia which have come under my observation, a continued administration of twenty to thirty-grain doses of calcium chloride resulted in a diminution of coagulability below the original norm. There is evidently in the hæmophiliac, just as there is in the normal, patient a maximum of lime addition which ought not to be exceeded. For the purposes of the arrest of hæmorrhage this subsequent diminution of coagulability may, however, generally be left out of account, for when the maximum of coagulability is reached hæmorrhage will generally be arrested by the sealing of the wound by clot. I have seen this result follow upon the internal administration of calcium chloride in several cases of hæmophiliac hæmorrhage. I am also indebted to Dr. Newcombe, of Gateshead-on-Tyne; to Mr. Horace Potts; to Dr. A. H. Jones, of Northampton; and to Surgeon-Lieutenant J. N. Macleod, I.M.S., for notes of cases in which hæmophiliac hæmorrhage was arrested by the internal administration of calcium chloride. The less soluble calcium salts may also be usefully applied in the form of local applications to the bleeding surfaces. I have obtained very satisfactory results from the application of finely-powdered chalk mixed into a paste with a  $\frac{1}{2}$  per cent. solution of calcium chloride. Dr. N. F. Surveyor had previously been good enough to send me the notes of a case under his care in which an arrest of severe hæmophiliac bleeding from the gums was obtained by an application of calcium phosphate. In Dr. Surveyor's case escharotic styptics had previously been applied with unsatisfactory results.

Hypodermic administration of calcium chloride is a method which I have forbore to apply upon man, as I have seen extensive (apparently aseptic) sloughing to result from a subcutaneous inoculation of calcium chloride upon a dog. I have also, in a hæmophiliac boy, seen scars of extensive sloughing which had been produced by a hypodermic injection of calcium chloride employed for the arrest of hæmorrhage.

Before dismissing the topic of the effect of calcium salts in hæmophilia, it may not be out of place to put upon record the fact that I have been able to convince myself of the truth of Dr. Wickham Legg's statement that hæmophiliac children are not infrequently addicted to eating plaster, mortar, and similar substances. For instance, the sole surviving maternal uncle of the two hæmophiliac boys who have already been dealt with in this paper spontaneously volunteered the statement that he had in his boyhood a constant craving for lime and plaster. This man is the subject of moderate hæmophilia, and has an ankylosed joint. Again, I was informed that a maternal first cousin of these same boys "could not be kept off from eating plaster." This boy, a child aged four years, who is the subject of

severe hæmophilia (blood coagulation—time, twenty-nine minutes), used to pick out the mortar from between the bricks when he was sent out of doors to prevent his eating plaster off the wall. I was shown a large portion of wall denuded of plaster as evidence of the child's plaster-eating propensities, and I was informed that his craving for plaster was most marked before his hæmorrhagic attacks.

I will now pass on to consider the other means which are at our disposal for combating hæmophilic hæmorrhage. The internal and external administration of calcium salts does not always result in the arrest of hæmorrhage. Even so large an increase of blood coagulability as that which I have recorded in the case of the first boy (*vide* table, *infra*) would not necessarily have resulted in an arrest of hæmorrhage. A blood coagulability of  $6\frac{3}{4}$  minutes (normal blood coagulates in from two to four minutes in the standard capillary tube at a temperature of half-blood heat) is no bar to the occurrence of very severe capillary hæmorrhages. In cases of severe hæmorrhage it will, therefore, always be judicious to supplement the treatment by calcium salts by the inhalation of carbonic acid. I have employed this treatment upon two occasions in the treatment of hæmophilic hæmorrhage. Upon both occasions I obtained a comparatively prompt cessation of hæmorrhage. I have also obtained very satisfactory results from the application of the method in the case of a patient in the Royal Victoria Hospital, Netley, whose blood coagulability was seriously diminished by prolonged tropical fever, and who was reduced to an extremely precarious condition by perpetually recurring epistaxis. In the case of this patient all the ordinary methods of arresting hæmorrhage had been resorted to unavailingly. He had been treated successively with ferric chloride, with turpentine, with calcium chloride, with hypodermic injections of ergot, with alum insufflations, and with ice applications. His coagulation period varied during the whole of this period of treatment between eight and four and a half minutes. The number of his white blood corpuscles, though increased under the influence of the turpentine, often fell below 1000 per cubic millimetre. Under these circumstances administrations of carbonic acid were resorted to whenever the epistaxis recurred. The administration of the gas was invariably followed by a prompt arrest of hæmorrhage. The method of administration which was adopted consisted in leading a stream of carbonic acid into the nose through an india-rubber tube passed up well into the nostril. The carbonic acid was supplied from an ordinary Kipp's gasogene, such as can be purchased at any chemical apparatus dealer's for a few shillings. The patient was directed to hold his head forward in order that the blood should run out of the nostril along the india-rubber tube instead of trickling down the posterior nares. The coagulative effect of the carbonic acid was gauged

by noting the rate at which the blood dripped from the tube. On several occasions this treatment was supplemented by a previous syringing out of the nostrils with  $\frac{1}{2}$  per cent. calcium chloride solution. In the case of epistaxis it is not necessary that the patient should inhale the gas; the local effect of the gas at the seat of hæmorrhage will suffice. The same statement would hold good of a possible treatment of metrorrhagia by an administration of carbonic acid. It is, however, necessary to insist upon the fact that an excess of carbonic acid must be avoided if the method is to be effectual. My experiments upon animals have shown that the accelerating influence of carbonic acid gas upon blood coagulation is manifested only in presence of a sufficiency of oxygen. When this fact has been realized, it becomes evident that the inhalation of carbonic acid gas would be applicable to the treatment of hæmoptysis. It is not necessary that the patient should be in any degree asphyxiated. Asphyxiation would militate against the efficacy of the method. The stream of gas should first be turned on very gently, so as to induce anæsthesia of the mucous membranes. As soon as this has been effected very large quantities of the gas can be tolerated without discomfort. I have not had an opportunity of testing the method in a case of hæmoptysis; it would appear, however, to be deserving of a trial, for it is a method which might result in an immediate arrest of hæmorrhage. If the administration of carbonic acid were not effectual by itself, its coagulative effect might be enhanced by a previous administration of calcium chloride. It might, for instance, be applied an hour after the administration of thirty grains of calcium chloride by the mouth.

Finally, before dismissing the subject of the arrest of hæmorrhage, it may be well to advert to the employment of solutions of cell nucleo-albumins as local applications to bleeding surfaces. The employment of physiological styptics of this kind would appear to be especially indicated in the treatment of hæmophilia, for I have convinced myself by a somewhat extensive series of observations on the blood of hæmophilic families that the blood of hæmophilic patients and of their female ascendants is characterized by a notable paucity of white blood corpuscles, and especially by a relative paucity of the polynuclear white blood corpuscles. In other words, hæmophilic blood is deficient in the cellular elements which contribute the nucleo-albuminous element to the formation of fibrin. An addition of nucleo-albumins is, therefore, essential to the formation of a sound clot. The practitioner can always readily obtain a supply of these by mincing up a thymus gland, a testicle, or (if these cannot be obtained) a piece of gastric mucous membrane, in a little 1 in 500 solution of carbonate, and by filtering off the infusion, either immediately or after the lapse of a few minutes, through a piece of calico. I have employed such solutions of cell nucleo-



albumins in two cases of hæmophiliac hæmorrhage; in both cases the hæmorrhage was taking place from cuts upon the hand. The result of the application of this physiological styptic was in each case the formation of an enormous mass of clot round the wound. In one of the cases bleeding continued for days under the clot (this was no doubt due to some dislodgment of the clot), and the skin became extensively macerated. I had in this case to clear away the clots and to arrest the hæmorrhage by inhalations of carbonic acid combined with an application of lime salts. It is, perhaps, not too much to say that with these three methods of arresting hæmorrhage at our disposal very few, if any, cases of hæmophilia ought to be allowed to succumb to their capillary hæmorrhages.

I have now to deal very shortly with the question of the treatment of urticarias which are associated with deficient blood coagulability. It is probable that most urticarias fall under this category. Instances in point are the urticarias which result from eating unripe or acid fruit. These, as I have elsewhere pointed out, may almost certainly be attributed to a diminution of blood coagulability due to the abstraction of calcium salts from the blood by the vegetable acids. Again, the urticaria which supervenes upon the eating of certain molluscs and crustaceans is, if one may judge by the analogy of what happens in animals, associated with a diminution of blood coagulability. There is yet another example of the association of diminished blood coagulability with urticaria in the case of the urticarious eruption which, as Shore first showed, occasionally occurs in dogs whose blood has been deprived of its coagulability by an injection of peptone. I was led by the analogy of these facts to inquire whether the urticaria which frequently supervenes upon an injection of anti-diphtheritic serum is also associated with a diminished blood coagulability. In the few cases which have come under my personal observation I have found that the blood coagulability is really notably diminished. A practical point in the treatment of urticaria would appear to result from these considerations. Whenever we are dealing with an urticaria which is associated with a diminished blood coagulability any method of treatment which will augment blood coagulability will, in all probability, exert a favorable influence upon the course of the eruption. Acting upon this assumption, I have treated the few cases of post-antitoxin urticaria which have come under my notice with 15 to 30 grain doses of calcium chloride. This treatment was apparently very successful. In one typical instance the coagulation time of the patient who was suffering from acute urticaria stood at eight minutes. Within a few hours after the administration of the calcium chloride it had come down to four minutes, and the rash had entirely disappeared. This method of treatment would appear, therefore, to deserve investigation at the hands of those who have frequent opportunities of observing this form and other

forms of urticaria. The treatment of urticaria by carbonic acid inhalations would hardly appear to be a practical method. Its results would, however, have a certain theoretical interest, as it seems probable that the nocturnal supervention of urticaria, like the nocturnal supervention or aggravation of hæmophilic hæmorrhages, must have some relation to the diminished nocturnal output of carbonic acid.

In all cases of urticaria associated with diminished blood coagulability, just as in all cases of hæmophilic bleeding, it is of the utmost importance to avoid diminishing the blood coagulability by the administration of wine. Wines, especially the more acid ones, diminish blood coagulability by virtue both of the alcohol and the free citric and tartaric acids they contain, which abstract lime salts from the blood. In a case which came under my notice incidentally even the smallest quantity of any wine, except port wine, produced a slight œdema of the fingers and an urticarious eruption. The urticaria in this case was a mere unregarded incident in a case of incipient tuberculosis which was being treated with creasote. If, however, the urticaria was really referable to a deficiency of lime salts in the blood, it was a therapeutic indication of the utmost importance, for the supervention of the urticaria would be the equivalent of a call for lime. Now, a demand for lime on the part of a tuberculous organism is a demand which ought to be carefully attended to, for Metchnikoff has shown that one of the methods of defence which is employed by the organism is the encapsulation of the intracellular tubercle bacilli in capsules of lime.—*The Lancet.*

## RECENT ADVANCE IN GYNÆCOLOGY.

By WILLIAM R. PRYOR, M.D.

### THE TREATMENT OF PUS IN THE FEMALE PELVIS.

**E**VEN a comparatively short experience in the practice of medicine will have sufficed to enable one to see great changes in the treatment of suppurative pelvic diseases of women. The opinions of learned and careful men have undergone almost revolutionary changes within the past five years, due more especially to improved methods of sterilization, and more careful anatomical study. Procedures which a few years ago seemed beyond hope of successful application are now commonly employed. Greater precision in the classification and analysis of cases has made it possible to formulate definite rules of action, and from the careful assignment of each case to its proper class sounder generalizations have been reached.

We may safely divide all cases of pelvic suppuration into two great groups: (*a*) Abscess of the ovary or of the tube, where the pus remains, contained within the walls of the diseased viscus; and (*b*) cases of diffuse pelvic suppuration, in which the pus has escaped from its original seat and has forced its way between coils of intestine and plates of lymph effusion. In this latter class must be included true broad ligament phlegmon.

The treatment of unilateral disease, including ovarian abscess and pyosalpinx, seems a simple problem. But here we find opinion diametrically opposed. Most American surgeons prefer the clean, straight abdominal incision, the removal of the diseased adnexa and closure of the abdomen without drainage. But in certain quarters the vaginal route is given precedence, some preferring to make the incision anterior to the cervix uteri, and others giving preference to the incision into Douglas' pouch. It would seem that the traumatism attendant upon the anterior incision is greater than that incident to an abdominal section, and is devoid of the attractiveness which attaches to open work where every step is seen. Of the abdominal route it may be said that every phase and variation is well known through long experience; that every possible complication has been met, and the method of dealing with it is known; and, above all, that the probability of entering a hollow viscus is so slight that it may be omitted from our calculations. Although we can fairly well cleanse the



vagina by means of preliminary antiseptic tampons, curettage, and brushes, still must this cavity be classed among the hollow viscera, an entrance into which is undesirable.

Furthermore, all who have attempted vaginal section for unilateral disease must admit that the traumatism of the genitalia is less with coeliotomy, that a more elaborate differentiation of conservative work can be applied through the abdomen, and that the mortality from coeliotomy in this class of cases is practically *nil*. To-day, at least, those who seek removal of *unilateral* purulent adnexa through the vagina are not supported either by experience or force of argument. The weight of both are with him who does coeliotomy.

The treatment of *bilateral* suppurative disease also finds advocates for both the suprapubic and vaginal routes ; furthermore, we are all confronted here with the question of the advisability of removing the uterus. If the surgeon be one who leaves the uterus after he removes both adnexa, he will elect the abdominal route undoubtedly. But if he belongs to the camp of those who always remove the uterus when both adnexa are taken away for pus, and who never remove the adnexa unless the seat of purulent degeneration, he has presented to him two lines of procedure, the result of which immediately are the same and remotely identical. The abdominal route leaves a scar as an ever-present reminder of a grave operation, and there is a breach in the abdominal parieties with a remote chance of subsequent hernia through it. These are absolutely the only objections to the abdominal route.

There is little risk of wounding the bladder or bowels in the operation, and what damage is done to either can be easily repaired. The ligation of the vessels can be made either *en masse* or in continuity, and there is no secondary hæmorrhage to be feared. The vaginal route is much the more difficult. Accidents of the hollow viscera occur in a too considerable percentage of cases ; ligation of vessels in continuity is never possible ; ligation *en masse* seldom practicable. The arteries are better secured by means of forceps, which produce nasty sloughs. There is no disagreeable abdominal scar, there is no possibility of ventral hernia ; the discomfort immediately after the operation is about the same as after laparotomy ; but undoubtedly the general shock is less. How is the surgeon to decide between these two nearly equally attractive methods ? Nowadays the patient will often demand vaginal operation. This is especially true in our large cities, where some operators take their patients into their confidence as to the beauty of the vaginal method and the disadvantages of the other. There are fashions in surgery as well as in dress. But a careful consideration of the possibilities of each procedure, its ultimate results, the accidents attending it, will lead the man who is unhampered by

extraneous matters to elect the abdomen rather than the vagina as the place of his incision. In considering this statement the reader must bear in mind that reference is made to the class of cases which are designated as bilateral, but in which the pus has not escaped from the wall of the affected viscera. When we come to consider those complicated cases of *diffuse* pelvic suppuration all hope of local conservatism is abandoned, and that broader conservatism alone is to be considered which seeks the preservation of the general economy.

When such a condition is approached from below, very often the uterus only can be removed, the ovaries and tubes being so firmly attached and so high up as to be beyond the reach of the operator for removal. The vaginal operation is then surgically incomplete, although the pus foci can be opened widely and a large pelvic Mickulicz tampon employed. Even though such an incomplete operation be done, it is an open question whether the results, both immediate and ultimate, are not better than those resulting from a complete abdominal section which necessitates the use of Mickulicz tampons. In America, at least, very often a suppurating appendicitis is associated with pus tubes, and not infrequently there are fistulous openings into the intestine above the pelvic brim. These cases are to be considered as demanding cœliotomy rather than vaginal section; for the intestinal lesion is of paramount importance and requires a careful manipulation. By vaginal section, in some cases, such a condition can be discovered, but in very many it cannot. It is to be found in all cases where the pus foci on the right side are attached at the pelvic brim.

But there is another side to this question of the treatment of pus in the pelvis; the woman's side. No man who has watched his cases can deny that most unfortunate is the woman whose menses have been stopped before she is thirty years old. Too often is her neurasthenia and melancholia painfully in evidence. The greater her intelligence and refinement, the more active her mind, the more distressed she is. The women of lower cast, who have hard manual labor to perform, suffer mentally less. So that, in certain cases, especially in young women, many surgeons content themselves by widely opening the cul-de-sac, emptying the pus sacs and packing them with iodoform gauze. This procedure must not be confounded with the blind vaginal puncture. The object sought is the obliteration of the pus sacs, but the preservation to the woman of her menstrual functions free from genital atrophy and the distress of a premature menopause. So deeply averse are some surgeons, men fully capable to do any required work, to the mutilation of women that they always lay before those afflicted in this way the possibilities of the cul-de-sac drain.

This whole subject may be summarized in this way: In diffuse pelvic suppuration, hysterectomy is always indicated, because drainage behind

the uterus will be insufficient. In simple bilateral tubo-ovarian suppuration, the cul-de-sac incision and a large pelvic Mickulicz tamponade of iodoform gauze into the opened pus sacs will symptomatically cure the vast majority of cases. If it fails to cure relief is temporarily afforded, and a radical operation can be done at the *elective time*. The possibility of the latter is the glory of the vaginal section. Surgeons are to consider whether it is not their imperative duty to first apply this procedure, which so often cures and which always benefits; which carries with it no accidents, and which preserves to the woman her menstrual functions.—*William R. Pryor, M.D., editorial in Medical News.*



# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### TYPHOID FEVER WITH UNUSUAL SEQUELÆ.

Simpson (*Edinburgh Medical Journal*, January, 1896) reports the case of a female, aged forty-five years, who was perfectly healthy until she was twenty-eight years of age, when she contracted typhoid fever. During convalescence she suddenly became unconscious without any scream or aura ; face was pale and did not become livid ; limbs were stiff and rigid ; and the patient did not pass through any clonic stage before resolution. She would have as many as five such seizures daily. The tongue was sometimes bitten, and there was some involuntary micturition, but there was no frothing at the mouth, nor embarrassed respiration. The patient was dazed and stupid for a time after each fit. The true cataleptic condition gradually became more marked ; the patient was never in an actual trance, though sometimes in a state similar to the "status epilepticus." There never was opisthotonos, and fits were always worse when attention was paid to her. For nine years she was confined to bed in this helpless state. At the end of this time she began to get up for a short time, but regularly once a week—Sunday, the day of the occurrence of the first fit—she was confined to her bed by a constant recurrence of the fits. At intervals there occurred severe attacks of vomiting, and inability to retain food for several days at a time. Subsequently, suddenly, while speaking she would pass into an unconscious state with muscular rigidity of the lower limbs and head. There was no scream nor clonic spasm at any time ; respiration and heart's action quiet and calm, face pale, no involuntary urination or defæcation. Condition lasted usually about fifteen minutes. Just before

coming out of an attack she would move her head slowly from side to side, go through writhing movements, take a few rapid respirations, groan, and the seizure was over. These attacks occurred frequently the same day. Speech, while always peculiar, was much more so since illness. Voice had a peculiar cracked tone, the words were half stammered or stuttered out, but there was no absolute aphonia or aphasia. On the whole, the case seems to be an instance of several nervous sequelæ of typhoid fever, compromising not only the dysarthria, but also the incomplete cataleptic condition with a degree of dementia, combined with a strong hysterical element. The condition improved somewhat after the reposition of a retroverted uterus.—*American Journal of the Medical Sciences.*

#### THE EFFECT OF PEPPERMINT INHALATION ON EXPERIMENTAL TUBERCULOSIS.

A clinical trial of the peppermint treatment of phthisis, as described by Carasso, has been carried on at the Adirondack Sanitarium, while at the same time experiments under the direction of Dr. Fendreau have been undertaken at the laboratory, with the view of testing (1) the effect of the vapor of peppermint oil upon pure cultures of the tubercle bacillus; (2) its influence on the course of the disease in animals inoculated *per tracheam* and kept in an atmosphere charged with the vapor. The results obtained appear to warrant the following conclusions: (1) Although oil of peppermint may prevent the bacillus from growing in a test tube, its growth in an animal is not hindered by even constant inhalation of the strong vapor of peppermint; (2) although the peppermint oil has a high power of diffusion, its local antiseptic action in the respiratory tract is probably slight, both on the tubercle bacillus and on other bacteria.—*Baldwin, New York Medical Journal.*

#### THE QUESTION OF LEUCOCYTOSIS IN TUBERCULOUS PROCESSES.

(*Deutsche Archiv für klinische Medizin*, vol. lvi., Nos. 3 and 4, 1895.) Stein and Erbmann.

Having first reviewed briefly the literature and shown the very contradictory opinions held by different authorities, the authors describe a modification of the latest method suggested by Thoma for the estimation of the number of leucocytes. This method is admirable, and deserves to be given *in extenso*. The slide having been prepared in the usual manner and focussed under the microscope, the draw-tube is moved up and down, until the edges of the field of vision exactly include a square of a definite side length =  $s$ . Then the area of the square is to the area of the circle

$S^2 : r^2 \times \pi$ ; or as  $2r^2 = S^2$ , then the ratio is  $S^2 : \frac{S^2 \times \pi}{2}$ , or  $2 : \pi$ . The

area of the included square, therefore, equals  $\frac{2}{\pi}$  times the area of the circle. If this contain a unit of small squares, then each of these equals  $\frac{1}{a}$  part of the large square, and the area of the circle in these units equals  $\frac{2}{\pi \times a}$ . It requires four thousand of these to contain one cubic millimetre of liquid; therefore to estimate the number of corpuscles in this body of liquid,  $Z$ , the number counted, must be multiplied by twice four thousand times the dilution ( $d$ ) and divided by  $\pi \times a$  times the number of fields counted ( $m$ ), or  $x = \frac{Z \times 2 \times 4000 \times d}{\pi \times a \times m}$ . A dilution of 1:10 is recommended, and the counting of twenty-five fields, giving a constant formula  $\frac{Z \times 80,000}{\pi \times a \times 25}$ , or  $\frac{Z \times 3200}{\pi \times a}$ . Tables are now given for fields containing twenty-five, thirty-six, and sixty-four small squares. The use of tables is, of course, a disadvantage at first, but even without them the calculation is but slightly more complicated than that of the ordinary method, and the fact that all the corpuscles in a field are counted without regard to the lines, after the field has been set, is a great relief to the eyes.

By this method, making several mixes from each case for greater accuracy, a number of cases were examined, and from the results obtained certain conclusions drawn. The counts were always made at 11 a.m., four and a half hours after the ingestion of food. In ten cases of commencing tuberculosis the number of leucocytes was normal, ranging from two thousand five hundred to nine thousand. In ten cases of advanced pulmonary tuberculosis without the formation of cavities or extension beyond the apices the result was the same. In five of seven cases of hæmoptysis, a leucocytosis ranging from twelve thousand to twenty thousand existed during or immediately after the hæmorrhages. In two, despite severe hæmoptysis, the white blood cells were not increased. There now follows a tabulation of forty cases in which the tuberculous process was either advanced or increased very considerably during the observation. The results of the autopsies are recorded in a number of the cases.

The authors now consider the results of their investigations, and conclude that the leucocytosis occurring after hæmoptysis cannot be distinguished from ordinary post-hæmorrhagic leucocytosis. This, they believe, is due to the stimulation of the lymphatic glands by anæmia, and urge in confirmation of their theory the fact that the leucocytes were chiefly large (?) and small lymphocytes. They also call attention to what they call the peculiar functional activity in the lymphatic system in tuberculosis.

The forty tabulated cases are now critically considered. Of these, five presented slight, if any, increase in the number of leucocytes; all were



cases of chronic pulmonary tuberculosis, extremely emaciated, with fatty degeneration of the organs, and either no cavities or very small ones. Thirteen cases had moderate leucocytosis, reaching twenty thousand. In these there were few or no cavities, but usually other conditions existed, such as anæmia, lymphadenitis, pleurisy, pneumothorax, sufficient of itself to account for the increase in the number of white blood cells. A number of cases of rapid development with large cavities, or tuberculosis of other organs, had a marked leucocytosis, reaching from thirty thousand to sixty thousand. One case had fibro-purulent peritonitis, another carries off the vertebræ, and in others other secondary conditions existed.

From this analysis they conclude that leucocytosis occurs under the following conditions :

- (1) When extensive cavities exist.
- (2) During inflammatory processes occurring just before death.
- (3) In chronic suppuration resulting from carious processes.
- (4) In hyperplasia of the lymphatic glands, even when the pulmonary process has not led to extensive destruction of tissue.

The possibility that the leucocytosis is due to infection by staphylococci or streptococci is discussed, and the virulence of many of the forms found in phthisical lungs offered as an argument in favor of this view ; but as the investigations showed that when, in a case with cavities, the process ceased to advance, the number of leucocytes diminished, and when the destruction of lung-tissue was rapid it increased, the authors conclude that "the leucocytosis is not merely the result of a mixed infection, but corresponds to a secondary infection proceeding from the cavities, and to a chronic septicæmic fever.

Destruction of tissue, therefore, is the immediate cause of leucocytosis, as thereby pus cells and leucocytes are absorbed into the blood channels, and increase of the number of the white elements occurs.

And, further, that the number of leucocytes is normal—

- (1) In beginning phthisis.
- (2) In advanced cases limited to the apices, or, at least, without cavities.
- (3) In cases of chronic infiltrating tuberculosis with little or no destruction.
- (4) And that it is slightly increased after hæmoptysis.

The inferences to be drawn clinically are—

- (a) Increase of the number of leucocytes in cases in which no suppurative or exudative process exists is evidence of destructive action.
- (b) A sudden increase indicates the beginning of a distinctive process.
- (c) A normal number of leucocytes excludes cavity or destructive process.—*International Medical Magazine.*

## OBSTETRICS

IN CHARGE OF

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### VOMITING IN PREGNANCY.

For obstinate vomiting during early pregnancy, Dr. Baer (*Phil. Poly-clinic*) recommends the following :

R Bismuth subnitrate..... 2 drams.  
Saccharated pepsin..... 1 dram.  
Sodium bicarbonate.....  $\frac{1}{2}$  dram.  
Sugar of milk..... 1 dram.

Mix and make twelve powders. One every three hours.

In addition to the above, the following prescription will be found to be most pleasing and effective :

R Diluted nitrohydrochloric acid.....  $1\frac{1}{2}$  fl. drams.  
Spirit of lemon..... 1 dram.  
Simple syrup..... 2 ounces.

Mix. Give one teaspoonful in a wineglass of ice water three times a day.—*Buffalo Medical and Surgical Journal*.

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### PUERPERAL ECLAMPSIA.

Zweifel (*Centralblatt fur Gynakologie*, Nos. 46, 47, and 48, 1895) reports his experience of 129 cases of puerperal eclampsia treated in the Leipzig Clinic, and contrasts those treated by the expectant method (before 1892) with those treated actively by Duhrssen's plan of emptying the uterus as soon as possible. Forty-nine cases were treated by the former method, with a mortality of 32.6 per cent.; eighty by the latter method, with a mortality of 15 per cent. After a careful study of the 129 cases, Zweifel concludes by advocating the principle of immediate delivery by

operation in every case of eclampsia, by dilatation with elastic bags, and when the cervix is already taken up slight incisions into the os, or, in cases not so far advanced, by making extensive incisions into the cervix. As the amount of blood that may be lost after these incisions cannot be estimated, venesection, which is very useful when the fits persist after the child is born, especially when the pulse is of high tension, is, unless under the same condition of the pulse, hardly advisable before delivery, although the older authorities are agreed as to the surprising effect it has in accelerating dilatation. While nothing should be given to an unconscious patient to swallow, a proper sound may be used to introduce liquid nourishment, to siphon out the stomach when desirable, or to administer weak solutions of acetic, tartaric, or citric acid, which in extreme restlessness are most beneficial. Zweifel does not consider ether contraindicated as an anæsthetic. Either this or chloroform may be employed. Finally, he insists that a rigid asepsis is the more necessary, as infection favors the recurrence of the fits.—*University Medical Magazine*.

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#### CAUSATION OF ECLAMPSIA.

James P. Boyd (*Bulletin Médicale du Nord*, Lille, November 12, 1895) reviews the theories of the causation of eclampsia, and emphasizes the facts that it is not common in women the subjects of chronic kidney disease before pregnancy; that where kidney symptoms are present they usually develop suddenly; that kidney lesions may be absent; that albuminuria is in many cases the effect and not the cause; that we must remember that the kidneys are not the only excretory organs whose failure to perform elimination properly may produce eclampsia; that ptomaine poisoning should not be forgotten.—*University Medical Magazine*.

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#### INTRAPERITONEAL HÆMATOCELE.

Mr. Mayo Robson, in an article on the "Relations of Pregnancy to Surgery" (*British Medical Journal*), speaks as follows about the "dreadful accident of intraperitoneal hæmatocele, which practically always depends on the rupture of a pregnant tube.

A case of this kind once seen is never forgotten, and in no class of cases is the value of early surgical treatment brought home so forcibly, both to the patient and her friends as well as to the medical attendants themselves, as in this. I have had the privilege of saving several valuable lives after this accident, and in only one out of a number of cases has death followed on operation, and in that instance the patient had lost blood to an enormous extent and died of pulmonary thrombosis the night



subsequent to operation. I will relate only two examples, but they will serve to illustrate my remarks.

About 11 o'clock one morning a medical friend called and asked me if I would see his wife, who had been taken suddenly ill at breakfast, and had been carried to bed in a fainting condition; she was only recently married, and had missed one period a fortnight before.

I found her only partly conscious, and pulseless, looking as pale as the sheet on which she was lying; the history of a sudden pelvic pain, followed by faintness and the presence of a fluid thrill in the lower abdomen, at once rendered the diagnosis clear, and within a very short time I had the abdomen opened, and a ruptured tube still bleeding ligatured and removed. Several pints of blood and clot were washed out of the abdomen, and drainage was adopted. Recovery was speedy and the patient is to-day in good health.

In another case my friend, Dr. Drake, asked me to see with him a young married lady, who had been suddenly seized while at the railway station with pelvic pain, followed by faintness, and on arrival at home by repeated fainting attacks. The same history of a missed period and the presence of fluid in the abdomen led to a diagnosis which an abdominal section verified. After removal of the ruptured tube, and after clearing the abdomen of blood, speedy recovery ensued, and that lady is now in good health.

The important point to bear in mind in these cases is that delay is worse than useless, it is positively dangerous; and though in a case I saw with Dr. Husband, at Ripon, we succeeded in saving life by operating on the second day, there may be no second day reached, and if we want to be certain of saving life we must interfere at the earliest possible moment.

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#### PROLONGED INTRA-UTERINE RETENTION OF AN OVUM.

Orloff (*Prag. med. Wochenschr.*, xx. 22, 1895) records the case of a pluripara, aged 43, who in November, 1893, five years after the birth of her tenth child, suffered from jaundice and amenorrhœa; in February, 1894, from melæna and hæmatemesis and enlargement of the abdomen; she was tapped three times for ascites, and died on November 9th, 1894, from cirrhosis and rupture of a branch of the coronary vein of the stomach near the cardia. In the right horn of the uterus were the remains of a spherical ovum about 1.5 cm. in diameter, consisting of the chorion with many calcified villi; the amnion and embryo had apparently escaped through a tear in the lower part of the ovum, which had no organic connection with the uterine wall. Under the microscope the mucosa showed

where the ovum had been attached. Orloff estimated the development of the ovum at from two to three months, that the retention had lasted about a year, and that there had been no uterine hæmorrhage. Resnikow (*Centralbl. f. Gynak.*, xix., 9, 1895) records the following case: A patient who had been twice confined (of twins the last time), when again seven months gravid had a severe illness with fever, during which labor pains came on, but only for a short time. She afterwards had a purulent discharge and rigors, followed by amenorrhœa. After four years the uterus was dilated, and the bones of a seven months' fœtus removed, and she recovered her health. Two similar cases are quoted.—*British Medical Journal*.

## SURGERY

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### LATE SUTURE OF DIVIDED TENDONS—RESTORATION OF FUNCTION.

At a meeting of the New York Surgical Society, Dr. R. H. M. Dawbarn presented a man, twenty-six years of age, who, about ten weeks before he saw him last fall, had sustained an injury of the left hand, resulting in complete division of the flexors of the index and middle fingers at the palmar junction. He had no power of flexion of the phalanges supplied by the long flexor tendons. Dr. Dawbarn made an incision, and had no trouble in finding the distal portion of the tendons, but had to go up nearly to the anterior carpal ligament to find the proximal portions. By strong traction he was able to approximate the two ends to within an inch and three-quarters of each other. Each tendon was united by four distance-sutures of silkworm gut, which spanned the space of an inch and three-quarters. The hand was kept flexed about five weeks. The result had been excellent, the man had probably as strong a flexor power in those fingers as in the others, and evidently new tendon had formed among the sutures. He could not fully extend the two fingers, but ability to do so would probably come with use. Perhaps it would have been better not to have kept the hand flexed so long, but as he was a laboring man Dr. Dawbarn had chosen the safer side.—*Annals of Surgery*.

### THE OBJECTS AND LIMITS OF OPERATIONS FOR CANCER.

(Abstract of Mr. Watson Cheyne's paper, continued from April issue.)

As regards the limits for cure in breast cancer, therefore, I would exclude from operation :

- (1) Cases of cancer *en cuirasse*.
- (2) Cases where there is a large mass in the axilla involving the nerves.



(3) Cases where large glands may be felt above the clavicle.

(4) All cases where secondary cancers already exist elsewhere.

In none of these instances is there any reasonable prospect of cure ; and there will be but little to be gained by subjecting the patient to the elaborate operations to which I have referred. Short of these conditions, however, I think the patient ought to have the chance of operation. Even when the operation fails to cure, the prolongation of life is often marked, much more so after those thorough operations than after the ordinary imperfect procedure. In this list I have not included cancerous cachexia, as is usually done, because it seems to be due to absorption of products from the cancerous growth, and does not necessarily imply a general internal infection. I have repeatedly seen patients with marked cancerous cachexia improve immensely after operation.

In considering the result of former and recent methods of operation for cancer of the breast, we may look either at the question of cure or at that of local recurrence, and the most satisfactory conclusion is, I think, obtained when we take both together ; indeed, since the most recent views have influenced practice, the time is too short for the accumulation of any large statistics as regards cure, and one must, therefore, judge of the effect to some extent by considering the question of recurrence.

As regards cure, I have adopted Volkmann's three-year limit, and include under cures all cases which for a period of three years or longer after the operation have had no local recurrence, and have shown no sign of internal cancer.

Although this three-year period is not absolutely accurate—for a certain, though small, proportion of patients who have been alive and well at the end of three years have yet died of cancer—nevertheless it is near enough for all practical purposes ; and even if we only secured the patient three years of complete freedom from disease, such a gain would fully justify the most radical operation.

As regards the question of local recurrence, it will be seen that a very marked change has been produced by recent methods of operating. Formerly, and even now, local recurrence was extremely frequent (Gross puts it at 68.8 per cent., and that is not including the cases which have been lost sight of, probably many of which have also recurred). In considering this question of local recurrence it must also be remembered that up till recently half these local recurrences took place during the first three months after the operation, and over eighty per cent. during the first year. In my own statistics I speak of two sets of recurrences, namely, external recurrences in the wound, its vicinity, or the glands, and internal or metastatic deposits.

The prolongation of life by the old method of operating is variously

estimated at from eight to thirteen months, but this is really longer than it should be, by reason of the fact that some of the patients have lived several years, and have thus raised the average. Excluding cases which have passed beyond the three-year limit, I do not think that the prolongation of life by the old imperfect operation is, on an average, more than from six to eight months, though at the present time, where recurrence takes place after the more thorough operation, the prolongation seems to be considerably increased.

In looking back over old literature, one is very much struck by the great rarity of cure, and the very desponding view which surgeons took of the chances of permanent freedom after operation.

I need not recapitulate here the details with regard to various statistics, but I have in the second table put together results which I have worked out from papers published from various clinics; and in the first table I publish all the cases on which I have myself operated since the beginning of 1890, at which time I obtained beds at the hospital and began to operate in this thorough manner. I would lay stress on the fact that my cases have been in no way selected, only cases of the kind previously referred to having been refused operation. Many of them were very advanced, and would have been refused operation by those who select their cases; and I may add that in all of them I have found disease in the axillary glands. I may say also that all my cases were subjected to microscopical examination, so that there is no question as to the diagnosis in these cases.

The study of the second table fully justifies, I think, what I have said as to the necessity for extensive operation, and the advantage to be derived from it. Contrast the older results, from Trendelenburg's four per cent. of cures to Fischer's fifteen per cent., or, taken altogether, an average of about ten per cent., with the more recent results, varying from sixteen per cent. in Küster's practice up to fifty-seven per cent. in my own, and we see that, as the result of greater care in operating, the chances of cure have been largely increased, and the recent results in this table ought to be really better, for a little study of the methods employed by some of the surgeons in the more recent period shows that even there the operations were not so complete as could be wished. The value of even an imperfect improvement is well shown in Esmarch's results, where, during the first period up to 1863, the old plan of operating was employed, with only four per cent. of cures; while afterwards the axilla was cleared out more or less thoroughly, with a jump at once to eighteen per cent., a result more than four times better.

Looking at my own results, it will be seen that the effect of thorough removal of the disease is very marked, indeed. If it be objected that

twenty-one is a small number to argue about, I would point out that twelve cures is more than can be shown by many of the older surgeons, although their cases exceed one hundred.

I need not enter at length into the objections which have been urged to these thorough operations. They are usually brought forward by those who operate with the hope of adding a few months to the patient's life, and not of curing the disease. I may, however, refer to the one question of mortality. Formerly the mortality was great, and was much increased by opening the axilla, and this was due to sepsis. As that is avoided nowadays, we may safely conclude that when the argument of mortality is brought forward the arguer does not keep his wounds aseptic. Shock is the only risk, practically, that we have to face, and there is no question that the patients do suffer a considerable amount of shock in some cases. As regards the question of functional disability, which is also sometimes brought forward, there is really comparatively little. Even if the arm were permanently useless, it would be a comparatively small price to pay for life.

TABLE I. (ABSTRACT.)

All cases of cancer of the female breast since 1890 (verified by microscopical examination), in which the first operation was performed by Mr. Watson Cheyne.

A. Cases in which three years at least have elapsed since the operation.

Total, 21 cases. No deaths from the operation.

12 cured—that is, well, for more than three years.

|            |   |   |
|------------|---|---|
| 9 recurred | { | 5 external recurrences, three of them with metastatic deposits as well. |
|            |   | 1 recurrence (external?).   |
|            |   | 3 metastatic deposits without external recurrences.                     |

In percentages, 57 per cent. cured; 42.8 per cent. recurred.

The patients cured have lived 6 years, 5 years and 9 months, 5 years (2 cases), 3 years and 10 months, 3 years and 1 month, 3 years: one died—well, 3 years and 5 months after the operation.

B. Cases in which three years have not elapsed since operation.

Total number of cases where three years have not yet elapsed since the operation = 40. Of these

1 died of the operation.

2 have been lost sight of.

27 have had no recurrence as yet.

10 have shown further disease.

6 recurred locally: in one (No. 29) visible disease was left behind.

4 had metastatic deposits alone; one of these (No. 56) was really an inoperable case, and in one case (No. 24) I only assume that there was an internal deposit.

In percentages, 67.5 per cent. remain well, 25 per cent. recurred.

The total is 61 cases. In 39 no recurrence—63 per cent. In 19 recurrence or metastatic deposits—31 per cent.



Excluding the cases operated on during 1895, which may be said to be too recent, we have 40 cases, of which

21 remained well—52 per cent.

16 have shown further signs of cancer—40 per cent. One of these (No. 29) really inoperable; and in one I am not sure (No. 24) whether there was a deposit or not.

2 lost sight of.

1 died after operation.

One other interesting calculation is to follow those cases which lived for a year after operation without further signs of cancer, thus showing the chances of a patient where a year passes without recurrence—25 (including two recurrences about which I am not sure). Of these

20 remain well.

1 died—well, after more than three years.

4 showed further signs of cancer (Nos. 7, 12, 17, 20), but in two of these (Nos. 7 and 17) the recurrence may have been noticed before the end of the first year.

This shows that the chance of recurrence is very slight if a patient is absolutely well after a year.

TABLE II.—STATISTICS OF BREAST OPERATIONS.

| Operator.                       | Total cases. | Mortality. | Known recurrences or deaths from metastases. | Cures.    | Cases done more than three years before this report. |            |                                       |           | No.      |
|---------------------------------|--------------|------------|--|-----------|--|------------|---------------------------------------|-----------|----------|
|                                 |              |            |  |           | Total.   | Mortality. | Recurrences (or Metastatic Deposits.) | Cures.    | of cases |
|                                 |              |            |  |           |  |            |                                       |           | Cured.   |
|                                 |              | p. c.      | per cent.                                    | per cent. |  | p. c.      | per cent.                             | per cent. |          |
| Fischer (Henry).....            | 147          | 20         | 55   | 8         | 86   | 22         | (?)                                   | 15        | 13       |
| Esmarch (Oldekop).....          | 229          | 10         | 44   | 10        | 171  | 13         | 59                                    | 14        | 25       |
| before 1863.....                |              |            |  |           | 47   |            |                                       | 4         | 2        |
| after 1863.....                 |              |            |  |           | 124  |            |                                       | 18        | 23       |
| Röse (Fischer).....             | 61           | 26.3       | (?)  | 6         |  |            |                                       |           | 4        |
| Billroth (Winwarter)            | 143          | 23.7       | 62   | 5         | 89   | 22         | 68                                    | 9         | 8        |
| Trendelenburg (Neuendorff)..... | 97           | 11         | 54   | 2         | 50   | 12         | 68                                    | 4         | 2        |
| Lücke (Dietrich).....           | 110          | 7.6        | (?)  | 9         | 69   | 8          | 60                                    | 13        | 0        |
| Czerney (Schmidt).....          | 150          | 4.4        | (?)  | 5         | 82   | 6          | 46                                    | 8.5       | 8        |
| Kronlein (Horner).....          | 144          | .4         | 58   | 18        | 121  | 4          | 68                                    | 20        | 25       |
| Küster (Schmidt).....           | 222          | 10.8       | (?)  | 9         | 132  | 14         | (?)                                   | 15        | 20       |
| König (Hildebrand).....         | 135          |            |  | 17        | 118  | 9          | 61                                    | 20        | 23       |
| Bergmann (Eichel).....          | 174          | 4.3        | 62   | 11        | 43   | 7          | 62                                    | 30        | 13       |
| Mitchell Banks.....             | 82           | 12         | 26.8   | 21.9      |  |            |                                       |           | 18       |
| Halsted.....                    | 50           | 0          | 43   | 4 or 8    | 11   | 0          | 54                                    | 18 or 36  | 2 or 4   |
| Watson Cheyne.....              | 61           | 1.6        | 31   | 19.9      | 21   | 0          | 42.8                                  | 57        | 12       |

#### CONTINUOUS SUBMERSION IN THE TREATMENT OF INFECTED WOUNDS OF THE EXTREMITIES.

We take the following from a paper read by Dr. Fred. J. Hodges before the recent meeting of the American Academy of Railway Surgeons:

The patient had an infected wound of hand which had been poulticed, incised, and drained. The forearm was infiltrated, swollen, and sodden;

it had been freely incised, and through and through drainage practised without improvement. The wrist joint was involved; patient delirious and refused food. Temperature  $104^{\circ}$ . Pockets had all been opened. Amputation considered too severe in patient's condition. Arm was placed in a continuous bath of boric acid solution. In twelve hours the man's temperature had fallen from  $104^{\circ}$  to  $99^{\circ}.5$ , and in twelve more he was perfectly rational and eating well. His further improvement was rapid and uneventful.

In what is known surgically as "infected wounds," there is usually present a "mixed infection." That is to say, there are present, besides the pus organism, the common putrefactive germs, which, working in the field prepared for them by the pus organism, add sapræmia to the septiciæmia already existing. In either event the germs themselves are only the starting point, the seeds of the harm which the host suffers.

The rational treatment, then, of infected wounds must have as its ultimate object, (1) the prevention of bacterial growth; (2) prevention of osmosis of the ptomaines into the blood mass, commonly spoken of as absorption; and (3) such general treatment as shall counteract the pernicious effects of the ptomaines upon the vital tissues. In the past it has been attempted to secure the first results by the use in and about wounds of substances known or imagined to have a destructive or inhibitory action upon the growth of the bacteria. In the very nature of things this course could be but partially successful. Had it accomplished the desired results nothing more would have been necessary, but in point of fact, in the treatment of this class of cases in the past, the greatest dependence has been placed upon drainage and irrigation, which seek to limit or prevent ptomaine absorption. That these measures fail in a good proportion of cases, even when reinforced by stimulants and tonics, is attested by the number of deaths from infected wounds of fingers, hands, arms, feet, and legs which occur in the practice of able surgeons; and the number of cases that drag on and on until, should death not occur, the patient is dismissed broken down in body and mind. It may seem that no one but an over-confident optimist would dare present a line of treatment with the claim that it would practically always succeed in such a dismal field, but after an experience embracing scores of cases extending over several years of hospital and private practice I come before you to-day to affirm in the most emphatic manner that continuous submersion, intelligently carried out, will, in the vast majority of cases, save both the life and the limb. That submersion is a prompt and reliable measure in these cases is attested by the experience of every surgeon that has been induced to try it. How the result is produced I will attempt to explain by presenting the line of reasoning which first led to its use.

1. Many forms of bacteria will not develop at the temperature of an ordinary living room. Such as do so develop less vigorously than at a higher temperature.

2. Many bacteria will not develop in a dilute watery medium.

3. Many have not the power of developing in strong, healthy tissue, but readily do so only after its vitality has been impaired by ptomaines.

4. The group of bacterial products collectively known as ptomaines are mostly crystalloids, and all are capable of being influenced by osmosis.

5. Serum and substances dissolved in it, if not already within the blood vessel, will, as the result of a fundamental physical law, seek the "direction of least resistance," which in the case of a part that has been freely incised and submerged in a bland fluid is towards the fluid and away from the blood mass.

To these propositions personal experiment and experience have added the following :

6. Avoiding extremes, the temperature of the bath is immaterial.

7. The utility of the bath depends upon the fundamental physical properties of the fluids rather than upon any "drug effects"; hence pure water is the best fluid for submersion.

In conclusion, I beg to again formally submit these propositions :

1. Continuous submersion is harmless.

2. Continuous submersion will almost instantly limit infectious gangrene and control septicæmia and sapræmia.

3. Continuous submersion will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis.

4. Continuous submersion will speedily reduce temperature and pulse, and overcome the consequent depression of the patient's vital forces.

#### CONTRIBUTION TO THE PATHOGENESIS OF GANGLIA.

Until recently the most widely-accepted view concerning ganglia was that they occurred from diverticula from the neighboring tendon sheaths.

Ledderhose has studied the pathogenesis of these so-called ganglia, and has been able to completely overthrow the accepted theories as to their origin. In a communication to the *Deutschen Gesellschaft für Chirurgie*, xviii., Kongress, 1889, he asserted that ganglia were new cystic growths due to colloid degeneration of the connective tissue occurring usually about joints.

The ganglia begin as multilocular cysts, but change by breaking down of the partitions into unilocular cysts. Specimens were presented to the congress showing various stages in the development of ganglia.

The writer (Dr. A. Ritschl, Freiburg) describes a multilocular colloid cyst removed from near the knee-joint of a young man. Careful micro-



scopic examination corroborated Ledderhose's assertion that these cysts are due to degeneration of the connective tissue. The various stages of degeneration were well shown. The connective tissue was observed in various stages of mucoid degeneration. The nuclei of the cells lost their elongated form, became swollen and spherical, and finally disappeared entirely; the vessels persisted a long time, but finally underwent the various stages of obliterating endarteritis and disappeared. In this specimen there was no true endothelial lining to the cyst, but in some places there was a layer of cells about the walls. Ledderhose has observed a true endothelium in some of his cysts, but it was absent in the majority of them.

The connective tissue adjoining the cyst was apparently normal.

These cysts do not always occur near a joint. A case is reported by Stahl (*Inaugural Dissertation*, Wurzburg, 1889), in which a cyst of similar character appeared over the tibia.

We are still in the dark as to the cause of these cysts. One can usually obtain a history of traumatism for those at the knee, and of over-exertion for those of the wrist. Obliterating endarteritis is always present, but this is but one link in the chain, and does not explain the original cause.—*Beitrag zur Klinischen Chirurgie*, Band xiv., Heft 2, p. 557.—George R. White, in *Annals of Surgery*.

#### THE EFFECT OF LAPAROTOMY ON TUBERCULOUS PERITONITIS.

In order to determine the value of laparotomy in the treatment of peritoneal tuberculosis, Gatti (*Suppl. al. Policlinico*, March 28) has experimented on dogs, guinea pigs, and rabbits. He arrived at the following conclusions: Laparotomy has little effect when the tuberculosis is quite initial. In the first three to five days after operation the tuberculosis presents no macroscopic changes, but a small quantity of reddish serum is thrown out. From seven days to nearly a month the tubercle was almost always increased in amount, but after this diminution and disappearance were noticed. Cure occurs through a degeneration of the epithelioid cells, without the intervention of wandering cells, independently of phagocytosis, and without the formation of fresh connective tissue. In the author's view the factor which stimulates these repressive processes after laparotomy is the serous fluid which is thrown out in the first few days, bathing the tuberculous mass, however thick, and having a bactericidal and attenuating action on the tubercle bacilli.

## PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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### ENTEROCLYSIS IN THE TREATMENT OF MUCOUS DISEASE OF INFANTS.

Large injections of weak antiseptic solutions are advocated in obstinate cases of chronic mucous diarrhœa in children by Docker (*Rev. des Mal. de l'Enf.*, May, 1896). He uses sodium hyposulphite 5 per cent., tincture of benzoin 15 per cent., or boric acid 3 or 4 per cent., but he considers that the success of the treatment depends on the thorough irrigation which washes away accumulated débris. The child should be in the horizontal position, with the left hip a little raised, so that the cæcum is in a dependent position. A large catheter or œsophageal sound is introduced as far as possible, connected with a reservoir about seven or eight inches above the level of the patient. The fluid (temperature about 100° F.) flows very slowly, but Ojss to Oij may be introduced in a quarter of an hour. The injections may be repeated every other day.

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### SERUM TREATMENT OF SCARLET FEVER.

In the *Jour. de Med.*, March 10, 1896, Marmorek, of Paris, makes a report of the treatment of scarlet fever by injections of anti-streptococcus serum. Notwithstanding that we do not yet know the specific organism which is the cause of scarlet fever, the frequent presence of a streptococcus may be of some value. It is found in the throat and in the glands, kidneys, ear discharge, valvular vegetations, etc. On these grounds, Marmorek injected anti-streptococcus serum in ninety-six cases of scarlet fever at the Trousseau Hospital. Of these, five died—four from diphtheria, and one from pneumonia. The most marked effect of the serum was on the swollen glands, which subsided so rapidly that there was

no suppuration in a single case. In the event of albuminuria, one or two injections caused its disappearance. Not only did the serum seem to prevent grave complications, but it also caused the rapid disappearance of false membrane from the throat and the subsidence of delirium. The general state rapidly became better, the pulse slower and stronger. The only bad effects observed were transient erythemas. The writer, while admitting that the series is too small to warrant any definite conclusion, is still of opinion that the serum treatment was of considerable use in reducing the severity of the attack.

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#### RESORCIN IN INFANTILE DIARRHŒA.

Pennock (*British Med. Journal*, December 21, 1895) advises resorcin as an antiseptic in infantile diarrhœa. He gives it in doses of three grains every four hours, to infants a few weeks old, without the least toxic effect, claiming to get very decided and beneficial results after the fourth dose.

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#### TREATMENT OF EPISTAXIS.

Gillette (*Medical Journal*, 1895, lxii., 695) recommends the use of hydrogen dioxide in cases of bleeding at the nose. He uses a teaspoonful or more in full strength with any ordinary syringe. Relief is obtained immediately. In operations in the nasal cavity, when bleeding obscures the vision, inject hydrogen dioxide. Ask the patient to blow the nose, and the field is clear again.

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#### TREATMENT OF SUMMER DIARRHŒA IN CHILDREN.

The treatment of summer diarrhœa in children is discussed by Dr. Booker (in the *Journal of American Medical Association*, 1895, Vol. xxv., No. 15). He believes that arrangement of diet is much more important than the giving of medicines. The first thing to be done is to stop everything that was being taken when the child became ill. Substitute rice water or oatmeal water for the milk, and give some purgative. He has for years used calomel, and has not seen any bad results from it. It acts not only by relieving the stomach of its contents, but there is an action of the calomel upon the mucous membranes generally that we do not understand. It is his belief that this is a valuable remedy. It should be given in very small doses. To a child six months old, a sixth of a grain should be given every hour until a grain or more is taken. Calomel acts somewhat as an antiseptic. If we get rid of the fermentation, and give the child food that it will digest with the least amount of effort, and which produces the least amount of poisonous product from the bacteria, the disease can be checked very early. In the majority of cases of summer



diarrhoea, if taken in the beginning and treated as to diet, and if we administer purgatives in the beginning and gradually go back to the milk, and not be in too great a hurry about it, we can carry a child on cereal water for several days without serious results. If restlessness on the part of the parent should occur on account of taking the milk from the child and substituting cereal waters, then egg water is very good.

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RESECTION OF NEARLY ELEVEN FEET OF SMALL INTESTINE IN A BOY  
EIGHT YEARS OLD.

In *Il Policlinico*, February 1, 1896, Ruggi reports the case of a boy who was struck on the abdomen by the car of a large swing, and thrown into the water about forty feet distant. For two weeks he had some tenderness in the abdomen, but no other symptoms. He then showed signs of obstruction. The abdomen was opened, and a loop of intestine was found constricted by a band of omentum. He improved for a time, but signs of obstruction returned in more pronounced form, and the wound was reopened. The intestine was found stenosed at the point where the constricting band had been divided. This was freed, and for a time the boy again had relief, but complained, as he had before the first operation, most bitterly of hunger, crying night and day in spite of the fact that large quantities of food were given in addition to rectal feeding. Obstruction again returning, it was decided to again open the abdomen. A large mass of intestine was found adherent to the abdominal wall. On attempting to free this it was discovered that a large extent of bowel had been stripped of its mesentery. Dr. Ruggi determined to resect these portions, and removed successively those portions of gut as shown in illustration, the entire length being ten feet nine inches. The lowest incision was six inches from the ileo-cæcal valve. The ends were brought together by silk sutures. In a few days the boy was again crying for food. Gradually, however, the hunger lessened, and in five weeks he was discharged cured. At the time of report, fifteen months later, he was in perfect health.

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ETIOLOGY OF VACCINIA.

A short account as given in the *British Medical Journal*, May 23, 1896, of some experiments made by Dr. Klein in order to determine the relation between variola and vaccinia. The experiments were made for the Local Government Board, and are to be found in the report of the medical officer, 1892-93. Two tubes were received from Dr. Simpson, of Calcutta, which had been thus obtained: Lymph taken from a smallpox patient on the fifth day of eruption was inserted into calf No. 1. On the

seventh day lymph was taken from this calf and inserted in calf No. 5. On the sixth day lymph was taken from calf No. 5 and transferred to child No. 1. On the fifth day lymph was taken from child No. 1 and transferred to child No. 3 and child No. 4. On the sixth day lymph was taken from child No. 3 and transferred to calf No. 21. The vesicles of this calf were scraped 122 hours later. The material thus obtained was powdered up and mixed with double the quantity of lanolin. This mixture formed the contents of one of the tubes (*a*). The other tube (*b*) was obtained in a very similar manner. The lymph from each of these tubes was inserted by Dr. Klein in a separate calf, and in both cases typical vaccinia was the result. From one of them three children were vaccinated, and in all the result was typical vaccinia, indistinguishable from that raised at the Government Animal Vaccine Establishment. There was no general eruption, and in no way did they during the several weeks that they were kept under observation show anything different from the process of normal vaccinia, and from these children other children were vaccinated with typical results. A calf was also vaccinated with a similar typical result.

## Editorials.

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### AN OFFICIAL ORGAN NO LONGER.

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THE Ontario Medical Council has abandoned an official journal. They decided at the last meeting not to renew the contract with the *Dominion Medical Monthly*; notwithstanding the fact that they agreed to supply the journal for the low sum of twenty-five cents per name. This amount would simply have covered the cost of postage, as a recent ruling of the Post Office Department declared that the *Monthly* was not a legitimate subscription journal. Advertisers will no longer be deluded by the cry of an official organ.

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### SKIAGRAPHY.

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WE publish in this issue a skiagraph of a foetus at about the seventh month. This very distinctly shows the point of ossification at this particular period of development. It shows very clearly how the bones of the forearm alter their relative relationship in pronation and supination; the points of ossification in the ilia and ischia; the metacarpal and phalanges of the right hand, showing distinctly down to the terminal phalanx, while those to the left are less distinct, owing to the hand being closed. Ossification in the several vertebræ is seen, and the manner of development is clearly defined. There is no evidence of internal organs in this skiagraph, the shading across the abdomen being due to the printing process.

The time of exposure was thirty-five minutes, but that has been greatly reduced, and we are now able to secure an excellent skiagraph of the hand in three minutes.

A very interesting discovery was made a short time ago, that crystals of iodoform are practically impervious to the "X" ray. In cases on which an iodoform dressing is applied an error might easily be made, by mistaking these opaque bodies for grains of powder, shot, etc.

The focus tube is the prime factor in reducing the exposure, and it is only reasonable to suppose that very shortly the time will be so far reduced that it will be little longer than instantaneous.



## MUSKOKA HOME FOR CONSUMPTIVES.

WE are glad to learn that the trustees of the National Sanitarium Association are making good progress in their efforts to provide a "public institution or institutions for the isolation, treatment, and cure of persons affected with pulmonary disease." As we have before stated, the first sanitarium will be established in the Muskoka district. The site selected is on Lake Muskoka, and is said to be a "beautiful spot," seventy acres in extent, sloping towards the south and the lake, and protected on the other sides by a pine forest and rocky ridges. A large administration building and a number of cottages will be built during the summer. The "cottage system" is, beyond doubt, the best plan which has yet been devised for the treatment of consumption; and we are glad to know that it will get a fair trial in this country. The officers of the association have requested us to announce that applications for the position of resident physician will be received up to the first of July next. They should be sent to the secretary, Dr. N. A. Powell, 167 College street, Toronto. The other officers and trustees of the association are: Sir Donald Smith, Montreal, president; Chief Justice Sir William Meredith, Toronto, vice-president; W. J. Gage, Toronto, treasurer; Messrs. W. E. H. Massey, G. A. Cox, Hon. G. W. Ross, Edward Gurney, Hugh Blain, D. E. Thomson, of Toronto, and Mr. James Ross, of Montreal.

## THE ONTARIO MEDICAL COUNCIL.

THE recent meeting of the Ontario Medical Council was in many respects a very important one. As a matter of course, Dr. Rogers, of Ottawa, the vice-president of last year, was on the first day elected president, and proved himself to be an excellent presiding officer. Dr. Thorburn, of Toronto, who has shown a great amount of executive ability for some years, and has been one of the most active and influential members, was elected vice-president. Many of the discussions at the various sessions were somewhat "heated," and were perhaps not less interesting on that account. Some of the members talk too much at times, but as a general rule do not get prosy. Partyism has not yet died out, but that is probably not an unmixed evil. There appears to be a governing party and an "opposition"; and both sides certainly possess men endowed with marked ability. We must say that there was manifested a desire to work in the interests of the general profession, and to maintain a high standard of medical education.

Much excellent work was done by the various committees. The Education Committee, under the able chairmanship of Dr. Britton, of

Toronto, had to consider many important matters. We have before referred to the desire expressed by representatives of all the medical colleges of Ontario, excepting Queen's, that there should be a change in the regulations respecting the prescribed course for medical students. The committee decided to allow medical colleges an option of having either four winter sessions of six months each, with one summer session of three months, or four sessions of eight months each without a summer session ; but retained the clause which requires a fifth year for clinical or laboratory work. With reference to the work of other committees we have not much to say at present. The Finance Committee was able to present a satisfactory report. The past year has been fruitful in the way of payments of annual dues. Something like six thousand dollars has come into the treasurer's hands from the profession of the province. We think that there is an almost universal opinion amongst the members of the profession in Ontario that the Medical Council, with all its defects—which are not so many after all—has accomplished much good, and deserves our hearty support and sympathy. The most suitable way in which we can show our loyalty is to pay our dues promptly. We will refer to certain matters which came up for discussion in future issues.

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#### ONTARIO MEDICAL ASSOCIATION.

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THE sixteenth annual meeting of the Ontario Medical Association, which met at Windsor on June 3 and 4, will be remembered by those who were present as one of the most enjoyable gatherings of the association.

The quality of the papers presented was well up to the standard, although we are of the opinion that more original matter should be brought before the association. The men in Ontario are doing good work, but are altogether too backward in bringing their work before the profession.

One regrettable feature was the absence from the meeting of some who had promised to present papers. In a great many cases this was undoubtedly unavoidable, but in some instances it was not so. It is wrong for a physician to promise a paper and not keep that promise ; it is worse than wrong, because someone else particularly interested in the same line of thought may have gone to the meeting principally to hear that paper. If a man promises a paper, he should either be there with it, or have it in the secretary's hands to be read by him to the meeting.

To the president we must extend our congratulations on the suave and graceful manner in which he presided, ruling with decision and despatch.

The Committee of Entertainment, composed of the physicians of Windsor and Walkerville, had arranged such an elaborate programme that it was really too much like work to accept all their many kindnesses, but we are satisfied that the roll call at these many entertainments was fully as large as at the sessions of the association.

A moonlight excursion down the Detroit River on the steamer *Sappho* was arranged to take place after the business session of the first night. Here a lunch was provided, and music for those who cared to dance. The ladies of Windsor and Walkerville who were present helped greatly to make the excursion a success. The weather was by no means pleasant, but the surroundings and company made one and all forget this disagreeable feature.

On Thursday, after hard work in the morning and a part of the afternoon, the association in a body was taken into custody by the Windsor Medical Association, and the remainder of the day was devoted to sight-seeing. Street cars provided the means of transit to Walkerville, where a very sumptuous lunch was tendered to the Ontario Association by the Windsor Association through the kindness and generosity of Hiram Walker & Sons. A large marquee was erected on their lawn which faces the river, and here men dispensed the good things to satisfy the pangs of thirst and hunger of over one hundred doctors.

Most enjoyable was the musical selection by Mr. Harold Jarvis, "The Death of Nelson"; while less artistic, yet quite as enthusiastic, were the songs by our old stand-bys, Dr. A. A. Macdonald's "*ta Pherson*," with pipe accompaniment, and the mournful termination of Dr. Allan Baine's ditty. After speeches and a few toasts the company were conducted through the storehouses of the firm. A group picture was taken, but most unfortunately the plate was broken, and there is no photograph of 1896 to awaken pleasant recollections. An exhibition of the Walkerville Fire Department was given, after which the party embarked on the ferry for Detroit. On arriving at the factory of Parke, Davis & Co. about twenty guides were awaiting, who conducted the members through the premises from cellar to garret. It was a revelation to all. This firm is doing a tremendous business, but it is worked by such a system that no hitch occurs, and mistakes are practically impossible.

Nothing was concealed, and nothing extra was evidently done for this particular occasion, yet it was worth the whole trip to go through this huge laboratory. Their experimental department alone would supply sufficient material to interest a physician half a day. The firm paid a graceful compliment to the association by having their private band on the lawn play "God Save the Queen" and "The Maple Leaf Forever." From here the members took cars to the Detroit Museum of Art, and were taken in charge by Mr. Frederick Stearns. Mr. Stearns, who was the



founder of the firm of Frederick Stearns & Co., whose extensive laboratories in Detroit and Windsor are well known to the profession in Ontario, has been three times around the world since retiring from an active connection with the firm. He has made a great collection of Japanese art, and presented the same to the Detroit museum. The members greatly appreciated the thoughtfulness of Mr. Stearns in showing this very handsome collection of art. The building was greatly admired, more especially as the architect of the same is a Canadian.

The Windsor committee still had more sights to show, and brought the association across the river to the vineyard and wine vaults of Messrs. Girardot, one of the oldest, if not the oldest winemakers in Canada. The members can testify to the palatability of the wines, and the generosity and kindness of the host.

The members of the profession in Windsor were exceedingly kind. They gave up their time entirely to the association, and were always present to give information and show courtesy to the strangers within their gates. It is hardly fair to particularize, but from our personal knowledge the bulk of the work fell on Drs. Cruickshank, Casgrain, Reaume, Ashbaugh, Coventry, Sanson, and Hoar, and to these gentlemen, together with rest of the committee, the Ontario Medical Association is indebted for one of its most pleasant meetings.

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#### INTER-PROVINCIAL REGISTRATION.

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THE important question of inter-provincial registration for Canada has been referred to in *THE CANADIAN PRACTITIONER* somewhat frequently during the last two or three years; but, we fear, the profession of our province does not give to the subject the careful consideration it deserves. This is certainly strange when we consider that Ontario has more to lose by a narrow spirit of provincialism than any of her smaller sisters. It is not in the best interests of Ontario that her graduates should be prevented from going to the eastern or western provinces to practise medicine without passing an additional examination. What is the reason that inter-provincial registration has obstacles placed in its way which appear, up to the present time, to have been insurmountable? The following quotation from an editorial which appeared in the *Maritime Medical News* (Halifax), in the April issue, gives fairly well a view which is entertained by a large number of physicians living in the outlying provinces:

"The subject has for several years past occupied the attention of the Canada Medical Association, but year after year the report of the various committees appointed to investigate the matter and present a suitable

scheme was a monotonous and helpless *non possumus*. At the meeting before the last this report was not received kindly, and it was stated plainly by various members that if there was to be any earnestness shown in the matter it was time it was apparent, that it had been played with too long, and that a definite result should be obtained whether favorable or unfavorable. The consequence was the appointment of a strong committee, which met last year at Kingston. This committee, if they did nothing more, were successful in locating and bringing to light what all along has been the great stumbling-block, viz., the opposition of the Province of Ontario to any scheme which would differ in any material manner from the course of study and length of time of study authorized in that province. The members outside of Ontario were told, and in rather a patronizing manner too, that inter-provincial registration was a very good thing indeed, but in order to obtain it they must insist on a five years' course of study as Ontario does, and make the curriculum in all points equal to hers if this desirable object was to be gained. But the Ontario representatives were promptly told that while it was true that province demanded a five years' course, yet, as the course was only six months, their total number of months consumed in study was only thirty, while the McGill students, for instance, whose course only extended over four years, yet each course being of nine months occupied in study thirty-six months, and thus had a longer curriculum than the Ontario men. So far, then, from the McGill men being asked to raise their standard to that of Ontario, the boot was on the other foot, and they were in a position to ask Ontario to raise its standard to theirs. Thus for the first time the complaisance of the Ontario representatives received a rude and unexpected shock, and when they were told that if they obstinately adhered to their Chinese wall that that wall would be the means not only of keeping men out of their province, but that in the future it would be the means of confining their men within their province—in other words, that if Ontario shut ten Ontario men out, then these gentlemen began to see that their position was not so impregnable as they imagined, and that it would be wiser to take a wider and deeper view of the matter than they had hitherto taken. It will be seen that now at last the various parties are in a position to treat, and this is an advance that has not hitherto been made."

We regret exceedingly the general tone of these remarks, which is rather ungracious—to say the least of it; but we must admit that the writer is correct in thinking that Ontario has not taken much trouble to show a conciliatory disposition towards the other provinces in matters pertaining to a medical curriculum with a common standard for the whole Dominion. The Ontario Medical Council has, however, done much to raise the standard of medical education; and, in that respect, was many

years ago far ahead of the times as far as this continent was concerned. We believe now that this body, which has done so much for higher medical education in Canada, is disposed to make fair concessions ; and we hope that the committee of the Canadian Medical Association which was appointed to consider the question of inter-provincial registration will be able to obtain the co-operation of representatives of all sections of the Dominion, and present a satisfactory report at the next meeting. It happens that the president of the association is a member of the Ontario Medical Council. Dr. Thorburn has broad and liberal views on the subject, and, we hope, will do all that he can to assist in finding a happy solution of the many difficulties which surround the vexed question.



## Meetings of Medical Societies.

### ONTARIO MEDICAL ASSOCIATION.

THE sixteenth annual meeting of the Ontario Medical Association was held at Windsor, June 3 and 4. President F. LeM. Grasett occupied the chair.

After the routine of opening, Dr. H. T. Machell read a paper on

#### THE TREATMENT OF PUERPERAL SEPTICÆMIA.\*

Dr. Hummison thought the lacerated cervix was one source of puerperal infection, but, not being so apparent as a torn perinæum, being hidden away, its repair was often neglected. He called attention to various forms of puerperal sepsis he had seen, and emphasized the importance of its early recognition and thorough treatment.

Dr. A. A. Macdonald said that the physician was not always to blame for midwifery cases that went wrong, nor should this impression get abroad. He had seen cases of puerperal sepsis occur after he had taken every precaution. In hospital practice pre-partum douche could be done, but this was not always easily carried out in private practice; nor was it necessary, unless among the lower classes, who were filthy in their habits or victims of gonorrhœa. In the most cases the free use of soap and hot water would insure a sufficient degree of asepsis. In clean cases he thought it was not necessary to see that all the placenta came away; it would probably do so itself in a day or two. In many cases search was not made for cervical tears. As to the general treatment of the septic condition he agreed with the essayist.

Dr. Alexander McPhedran, of Toronto, read a paper on

#### TONGUE-LIKE ACCESSORY LOBES OF THE LIVER.†

In a paper on

#### THE RATIONAL TREATMENT OF TYPHOID FEVER,

Dr. Armour, of St. Catharines, upheld the value of purgatives. He held that the great majority of drugs recommended for this disease were of

\* Will appear in THE PRACTITIONER.

† See page 401.

little or no use. The principal ones he laid stress on were calomel, salts, opium, and alcohol, in selected cases. He would allow gruel, soda biscuit, eggs, and the like, if milk diet did not agree.

He had treated forty-three cases in this way without a death. Thirteen were apparently aborted between the fifth and fifteenth day. The average duration of illness was twenty-four days. During the early part of the same period he had a record of forty-one cases treated in the orthodox way with antipyretics, antiseptics, turpentine, quinine, enemata, restraining supposed excessive diarrhoea with opiates, astringents, with an average duration of thirty-two days and three deaths. Of these one died of pneumonia on the thirty-fourth day; one on the twenty-second day from nephritis, and one on the forty-third day from occlusion of the bowels with stercoraceous vomiting, two weeks after perforation had been diagnosed. In reviewing reported cases he had noted that a large proportion had died after astringents and opiates had been given to check the diarrhoea.

The President then delivered his address, which will be found elsewhere in this issue.

Dr. Burt, of Paris, read a paper on

#### THE TREATMENT OF MAMMARY CARCINOMA.\*

Dr. A. B. Welford, in discussing this paper, showed how the mortality in operations for mammary carcinoma had decreased from 17 per cent. in pre-antiseptic days to 2.5 per cent. during the antiseptic. The highest percentage of cures, using the three-year limit, was from 20 to 25 per cent. He discussed the question whether there was such a mortality from recurrence. He thought it was due to the fact that the will of the patient was too often taken into consideration in deciding upon operation, and also to some extent to faulty operation. If Hutchinson's view was taken, that cancer was not due to any special material introduced from without, but simply to modification of the tissues which occurs in chronic inflammatory action, then might it not be supposed that in tissues which were in a condition of degeneracy the ordinary process of healing, with its necessary irritation, should produce the same state of affairs as that for which the operation was performed. As would be expected, recurrence appeared nearest the sternal margin of the gland, first in the residuary breast gland and secondly in the axilla. These facts point to the necessity of complete and thorough removal. Cosmetic effects should not influence the surgeon. The doctor then referred to his first case, which was as successful as any he had ever had, where he removed a large ulcerated scirrhus, adherent to the muscles beneath, and extending to the extremesternal large gland, the axillary glands being badly involved. He removed the entire gland, the two

\* Will appear in *THE PRACTITIONER*.

pectoral muscles, and a superficial layer of the external intercostals, the fasciæ covering the serratus magnus, the axillary glands and fat, and the whole surface of the skin, excepting the anterior axillary fold, leaving a large gaping wound more than 8 inches in vertical diameter. No attempt was made to unite the edges excepting by adhesive straps. The wound took thirteen weeks to heal, assisted by skin grafts. This was sixteen years since, and the woman was now in good health with no signs of recurrence. The essayist called attention to a method of determining whether there was any diseased structure left after operation by the nitric acid test. The doctor then gave statistics of some results in these cases, which he said he was sorry showed 50 per cent. of fatal recurrence.

Dr. McKeough, in discussing the technique in operations for mammary cancer, said that the incision would depend partly upon the situation of the tumor; usually an elliptical or circular incision from the sternum to near the axilla answers. The amount of skin sacrificed should correspond to the prominent part of the organ; this is necessary even when the tumor is not attached to the adjacent skin or the nipple retracted, as the suspensory ligaments which extend from the breast tissue to the integument contain lymphatics which easily become infected with cancer cells. Every vestige of the mammary gland must be removed. The skin should be undermined and elevated, and all the lobules of the breast, which sometimes extend in the fatty tissues nearly as high as the clavicle, inwards as far as the sternum, downwards to the abdominal muscles, and outwards and backwards to the latissimus dorsi, should be carefully detached and removed. The incisions should extend down to the great pectoral muscles, and, in order to completely remove the pectoral fascia in which the lymphatics proceed outwards, Cheyne recommends shaving off a layer of the pectoral muscle. This, he believed, should be done in all cases, and is sufficient usually without removing, as Halstead does, the entire muscle, unless nodules of cancer can be felt in the muscular substances, in which case the whole muscle should be removed from the breast. The functions are much more impaired when the pectoral muscle is entirely removed; but when it becomes a question of cure or recurrence, the impairment of functions should not be a point for debate. Hæmorrhage is controlled by the hands of an assistant or by pressure forceps, and is usually very profuse. The axilla is attacked by an incision from the angle of the breast wound along the lower border of the pectoral muscle. After cutting through the skin and superficial fascia the knife is discarded for the fingers or some blunt dissector, and the entire axilla, including adjoining spaces of Morbenheim, must be completely denuded of all fat, glands, and lymphatics until the important vessel and nerves stand out as in an anatomical dissection. It is almost the unanimous opinion of surgeons of experience that the



axilla should be opened up and cleaned out in every operation for malignant disease of the breast. Keen, who has operated over two hundred times, says that he cannot detect enlarged glands in the axilla once in ten times until it is opened. It is highly important that the breast and adjacent fat, including the glands and fat from the axilla, be removed *en masse*, and not in piecemeal, and it is important that no diseased structure should be cut into so as to liberate cells which might infect healthy tissue. It is also an advantage in separating the glands and diseased tissue in the axilla to have them dragged down by the weight of the previously incised breast. An advantage in widely separating the skins for the removal of all possibly infected tissue is the greater facility with which the edges of the flaps will coapt when brought together. If the skin will not readily come together, it is better to bring the flaps as closely as possible without undue tension, and adopt skin-grafting at the time or subsequently in order to close the wound.

The dressing of the wound is important ; if all oozing can be stopped and the parts left perfectly dry, drainage may be dispensed with ; otherwise it is better to leave in a piece of sterile iodoform gauze for twenty-four hours. The wound should be united with interrupted silkworm-gut sutures. It is very necessary, in applying sterilized gauze dressings and bandage, to have firm equal pressure everywhere to completely close all dead spaces, so as to prevent any accumulation of serum. The arm should be kept confined to the side for a few days. If drainage is not used the dressing will not require changing for a week or ten days, when the wound should be found perfectly healed.

The mortality from the complete operation is very small, considering the important structures exposed and the shock consequent upon a more or less prolonged operation. The results of a number of leading American surgeons who have published their results recently show a mortality of less than 1 per cent.

Dr. C. B. Oliver, of Merlin, read a paper on

#### THE PRESERVATION OF THE PERINÆUM.

His practice, in cases where the perinæum was rigid, was to introduce two fingers of the right hand into the vagina, and with each pain stretch the perinæum in advance of the head. When full expansion is complete two fingers are introduced behind the occiput, and this part of the head is brought well down under the pubic arch. This, he claimed, should be a routine practice. He also advocated the method of expelling the head in the interval between pains by means of the thumb or finger in the rectum.

Dr. A. A. Harvey read a paper on

BRONCHO-PNEUMONIA IN CHILDREN.

The doctor dwelt at considerable length on the pathology, cause, and symptoms of this disease. The principles of treatment to be observed were to equalize the temperature, liquefy and get rid of the exudate, and to support the system. The writer called attention to the hygienic precautions to be observed. In the first stage he advised purgation by means of some form of mercury. Emetics were only allowable when the child became cyanotic, lethargic, and respirations embarrassed. As a febrifuge he recommended a neutral saline fever mixture. In extreme cyanosis he had had good results from the application of *emplastrum lyttæ* as a counter-irritant. Sinapisms were useful in the first stage to abort the attack. Later, when the exudate begins to be poured out, they were of little use. Then he preferred an application of the tincture of iodine, the patient being afterwards enswathed in cotton wadding. The food should be nourishing, and be given in such quantities as the patient could digest, and at regular periods.

Dr. Charteris, of Chatham, read a paper on the

TREATMENT OF DIPHTHERIA.

But first he pointed out the causes direct and predisposing to its occurrence and then outlined the symptoms. He believes it is a local disease primarily. He uses the iron and chlorate of potash gargle, or one of listerine and carbolic acid, or a spray of hydrogen peroxide. Internally, he prescribes quinine and stimulants, if the heart be weak. Calomel he prefers as a cathartic. In such cases as require mercurial inhalations, he volatilizes from one-half to one drachm of calomel over a lamp, allowing the fumes to reach the patient under a sheet which is supported by an umbrella. Statistics are mostly in favor of antitoxin. He has used it with marked benefit in a number of cases. Nourishing liquid diet should be administered. The condition of the kidneys should always be closely attended to, to guard against albuminuria.

Dr. Gibson, of Belleville, was appointed chairman of this section, and Dr. E. H. Stafford, secretary.

Dr. Holmes reported three surgical cases. The first was the

OPERATION OF NEPHRORRHAPHY,\*

done on a man who was suffering from very great debility accompanied by pronounced nervous and dyspeptic symptoms. The anchoring of the kidney gave complete relief. The reader described the technique of the operation. Case number 2 described the removal of a renal tumor by the anterior method. Case 3 was an abdominal hysterectomy done after the method advocated by Howard Kelly.

\* Will appear in THE PRACTITIONER.

Dr. J. H. Carstens agreed that the nephrorrhaphy should not be done until symptoms became serious. Fibroid tumors should be removed at once.

Dr. F. R. Eccles gave his experience with cases of nephrorrhaphy in regard to the diagnosis. He had often found a condition of hydronephrosis. By pressure over that region he had found that quantities of urine would be passed.

Dr. McGraw, of Detroit, called attention to the differential diagnosis between floating kidney and dilated gall bladder.

Dr. McLean, of Detroit, spoke of the value of such operations on neurotic patients.

Dr. Metcalfe referred to a case of floating kidney in which nephrorrhaphy was done. This was followed by great importance of symptoms.

Dr. G. T. McKeough read a paper on the

#### TREATMENT OF ABORTION.

He regretted that abortion had to be only too often treated now, and gave a detailed treatment of the prophylaxis of the disease. He stated that abortion might be due to many causes, such as constitutional disease, or some local cause of irritation. The doctor said that, of course, rest must be absolute, and that opium was the drug to be chiefly relied on. He said that it was difficult for the physician to make a direct prognosis, and that seemingly serious cases had often ended well, although the hæmorrhage had been great.

When the abortion is inevitable, and the ovum is dead, nature required, as a rule, little assistance, but when the ovum was alive the case was very serious. Dr. McKeough gave a lengthy description of the treatment he adopted in the latter case, stating that he had experienced great success. He laid great stress on the use of the kite tampon, which he favored, and also the use of curettes, etc. He preferred the lithotomy position for the patient, and said that, of course, hands, instruments, etc., should be thoroughly antiseptic.

Dr. Longyear, of Detroit, Dr. Hummison, and Dr. Spence, of Toronto, discussed the paper.

Dr. Edmund E. King gave a demonstration of the

#### ROENTGEN PHOTOGRAPHY.

During the demonstration Dr. King described the apparatus required to produce the rays and the skiagraph. A number of interesting photographs were shown and a picture of a hand taken. The most recent applications of this new discovery in diagnosing various surgical lesions and in the study of embryology was dealt with by the speaker in closing.

Dr. H. C. Scadding showed Hewitt's apparatus for inducing anæsthesia. He said that the use of nitrous oxide with ether, as recommended by



Clover, produced unconsciousness without struggling or a feeling of smothering. It was safe, too. Hewitt's special apparatus allowed the administration of air through valves or nitrous oxide, or these together with ether, at the will of the operator.

Hewitt's apparatus for giving nitrous oxide gas and oxygen was likewise exhibited. This combination was infinitely more safe in dental work than chloroform. It produced no cyanosis; there was no jactitation; the respiratory and circulatory functions were not embarrassed.

The delegates were then given an excursion on the Detroit River by their Windsor confrères, which was thoroughly enjoyed.

Dr. Cruickshanks read a paper on the

#### DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER.\*

He began by giving a history of the Windsor outbreak and a discussion of the various forms of treatment. With regard to the subject proper, he said it was easy to decide between typhoid and malaria by the use of the microscope. He showed the absurdity of the term typho-malarial fever. There was no such disease. Seldom or never did typhoid and malarial fever occur concurrently—the only condition to which the name was at all applicable. The greatest difficulty he held in the differential diagnosis was to distinguish typhoid from gastric fever. He believed that typhoid fever aborted. During the outbreak there were some one hundred and fifty cases, some lasting a few days, some two months. He based his belief that these short cases of fever were typhoid because they had occurred during the typhoid epidemic and were not common at other times.

#### THE TREATMENT OF PHTHISIS

was the subject for discussion in medicine, led by Dr. Geikie. In strong terms the doctor presented this subject, as, he said, on account of the great prevalence of the disease and its great fatality. He said there was not much novelty in the subject, yet the principles of treatment should be always borne in mind. He dealt at considerable length on the prophylaxis of this disease. He recommended tuberculous people to refrain from matrimony. He dealt with the treatment of those cases where the disease was prone to be lit up. To keep the digestion in good order was of prime importance. Abundance of fresh air and good food should be strenuously insisted upon. The speaker dwelt on the value of cod-liver oil, creasote, iron, strychnine, as constitutional remedies, and turpentine, carbolic acid, eucalyptus as inhalations.

Dr. Hodge, of London, read a paper in discussion.†

Dr. M. V. Mann, of Buffalo, in a paper on

#### THE ABSORBABLE LIGATURE IN ABDOMINAL SURGERY,

advocated, in opposition to Mr. Tait's treatment of the pedicle by the cautery, the use of catgut. He showed its advantage over the non-ab-

\*Will appear in THE PRACTITIONER.

†Will appear in THE PRACTITIONER.

sorbable ligatures which Mr. Tait had shown were so unsatisfactory. He dwelt on the necessity of absolute sterilization of the gut, and the proper technique in its appliance.

#### TWO CASES OF SLOW PULSE.

Dr. Dewar, of Essex, presented two patients, in the first of whom the pulse had been down to 22 for a considerable length of time—falling even to 16, and unaffected by exercise. For two years the patient, a man of 63, had suffered from indigestion and general debility with epileptoid seizures. The pulse of the second case was 25 to the minute. He gave a history of *petit mal*, but otherwise enjoyed fair health.

#### OCCIPITO-POSTERIOR POSITIONS.

This was the title of a paper by Dr. A. A. Macdonald, of Toronto. He said there was a decided variance of opinion as to the frequency of this class of disease. Some say it is rare. Others the reverse. The essayist believed there was want of closeness of observation. He believed due credit was not given to nature for those cases where turning took place during the descent of the head; at any rate, the presentation occurred with enough frequency to keep the physician always on the guard, and also frequently enough to warrant him in energetic treatment. There was a difference of opinion as to the gravity of this case. Sir James Simpson had said that they require a greater time than the occipito-anterior positions. The difference was not great, and nature could with facility complete the labor in this common class of patients. Others think differently. Penrose said that if he were to be asked what was the obstetric difficulty which had caused the most maternal and foetal deaths and the most accidents, leaving women wrecks, he would say occipito-posterior position, where the occiput had rotated into the hollow of the sacrum. Currier had reported a case where both mother and child had died. The teaching of the present day by many men was to endeavor to rectify the malposition by manual interference. This failing, apply forceps and pull hard and long. The report of the discussion of the above case contained nothing about anæsthetics. Herman divides these positions into two classes, the easy and the difficult; the former being bregmato-cotyloid, the head being well flexed, so that the anterior fontanelle lies opposite the acetabulum. The occiput meets the resistance of the pelvic floor, and is pushed forward so that it turns opposite the sacro-iliac sychondrosis under the pubic arch. In this case labor ends just as though the occiput had been in front from the beginning. Most cases end in this way, but in the other group the head is not well flexed, and the frontal eminence is opposite the acetabulum. They are called fronto-cotyloid. The chief causes of this imperfect flexion are the relation of the axis of the uterus and the pelvic brim, and the

greatest transverse diameter of the head is behind its centre, that is to say, the bi-parietal diameter is behind the oblique diameter of the brim in a part where there is less room for it than would be the case in an occipito-anterior position. So, if the child's hand is of a fair size, it does not descend so readily, flexion is retarded, or even extension may be favored, thus rendering labor difficult. Another case is a very large or very small head, excessive liquor amnii from deformity of the pelvis. The first step of treatment was to make an accurate diagnosis. Some claimed that this is easy, but the essayist, to make sure, recommended administration of chloroform and the exploration of the parturient canal with the aseptic hand. It may be even introduced into the uterus when the exact position is wanted. If the occiput is found towards the back, the malposition can be rectified by grasping the head and turning it towards the front. The body of the child may be rotated also, if necessary. This sounds easy, and is easy if taken in time. The membranes are ruptured, the hand is pushed in before the liquor amnii has had time to escape, and the head may be turned. If the head is engaged, it may be necessary to push the whole body of the child upwards before attempting to rotate, and hold it there while forceps are applied.

CASE 1. Mrs. H., aged 27. Second pregnancy. Has a considerable amount of mitral stenosis, and during gestation suffers from palpitation, cough, shortness of breath, and congestion of the lungs. The chloroform acted well on the heart. The position was left posterior with full flexion. The head was small and easily extricated by forceps.

CASE 2. Mrs. O. four years ago had a ruptured perinæum and rectocele. Labor was tedious, continuing all night. At 8 o'clock in the morning, the os being dilated, occipito left posterior presentation was made under complete anæsthesia. The hand was introduced into the uterus. The head was pushed above the brim and given a quarter turn into the occipito left anterior, producing flexion at the same time. The shoulders were braced into a position to correspond with the head. Forceps were applied, and there was a rapid delivery.

CASE 3. Woman with a narrow pelvis. All labors difficult. Labor pain commenced on the 24th of the month, and lasted till the 27th. When occipito left presentation was noted, the head not tending to engage, the same procedure was done as in the last case. Rapid and successful delivery.

CASE 4. Woman fourteen hours in labor. Bregmato-cotyloid presentation. Woman nearly exhausted. The same method employed. Forceps were applied, but delivery being very difficult it was found that the head had rotated back into the faulty position. This was corrected, and delivery effected.



Dr. F. R. Eccles, London, read a paper on "Missed Abortion."\*

Dr. A. Primrose read a paper on

AMPUTATION AT THE HIP JOINT FOR ADVANCED TUBERCULOUS DISEASE.†

After his advocacy of this procedure, the essayist reported cases which proved the correctness of his views on this question.

Dr. Reeve read a paper on

#### CONSERVATIVE SURGERY OF THE EYE.

He gave a little review of the work that had been done along several lines in this specialty. For the removal of particles in the anterior chamber, and even in the deep portions of the vitreous, the magnate had proved highly successful. Within ten days he had seen two cases in which there were two particles on the retina revealed by ophthalmoscopic examination. In both cases the particles were moved by the magnate, and in one useful vision was retained. The reader discussed the question of asepsis in connection with the eye and its adnexa. He spoke of the danger of infection from the secretion regurgitating from the lachrymal sac, which was generally charged with organisms. Regarding the subject of prophylaxis of sympathetic ophthalmia, while enucleation was regarded as the shortest and safest and most decisive treatment of the eye that must be sacrificed, allusion was to be made to evisceration—the emptying of the scleral cup. This avoided the necessity of resorting to an artificial eye. The chief objection raised against it was that shrinkage of the eye following the operation. Then he referred to the method of the modification of the enucleation of the operation where, instead of an artificial vitreous, of allowing the cavity to fill with blood. This was a method the essayist himself had first advocated, he believed. The subsequent shrinkage which occurs prevented the results from being as good as was anticipated.

Dr. Reeve then discussed the question of iridectomy for eyes "going to the bad" as the result of adhesions—a closure of the pupils caused by the neglect of the iritis. It had been used also in ulcers of the cornea following purulent ophthalmia. In cases where the eye tension increased and the eye becomes glaucomatous, early iridectomy would often preserve the eye and its vision. He referred to the almost magic effect of this operation in acute glaucoma. The essayist also discussed the treatment of perforative wounds followed by prolapse of the iris. The essayist then spoke of the suspicious small growth of the eyelids and eyeballs. He also noted the change that had been made in the treatment of strabismus. The old rule of operating early in life was not now observed, because it was now known that instead of the squint causing amblyopia the reverse was the case; and that correction of the squint could be made by proper

\*Will appear in THE PRACTITIONER.

†Will appear in THE PRACTITIONER.

lenses. Later, an operation might be used if necessary. The subject of tenotomies and operation for cataract were then referred to. Reference was then made to the treatment of lachrymal affections. He called attention to the importance of early recognition of stricture of the nasal duct in the prevention of this condition. The danger in mucocele lay partly in the fact that it provided a nidus for germs, and from it there was a danger of infection of the cornea. The paper next dealt with the causes of astigmatism and entropion and some modern points in their treatment.

Dr. J. M. Cotton, Lambton Mills, read a paper on "Hæmoptysis."\*

Through Dr. T. T. S. Harrison, the committee on necrology made their report, which was adopted.

The committee to consider the question of lodge practice reported that it could not propose any fixed scheme yet applicable to the whole province, but they strongly condemned the growing evil, and recommended that an effort be made to have each society in the province take the subject into its consideration and pledge itself in every way whatever to make lodge practice by any physician discreditable. This pithy report was signed by Dr. J. Spence, of Toronto, chairman, and was adopted.

A cordial vote of thanks was tendered to the profession of Windsor for the hearty and munificent manner in which they had entertained the visiting members of the Ontario association.

The officers elected for the year are : President, Dr. Coventry, Windsor ; first vice-president, Dr. Eccles, London ; second vice-president, Dr. Clarke, Kingston ; third vice-president, Dr. Machell, Toronto ; fourth vice-president, Dr. J. P. Armour, St. Catharines ; general secretary, J. N. E. Brown, re-elected ; assistant secretary, E. H. Stafford, Toronto ; treasurer, Dr. Carveth, Toronto.

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#### TORONTO MEDICAL SOCIETY.

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THE regular meeting was held May 14, 1896, Dr. Wm. Oldright president, in the chair.

#### UNSUCCESSFUL RESULT OF TENDON UNION.

Dr. Peters presented a butcher whose right hand was in a semi-flexed condition. Some months previous the patient had attempted to drive the knife he held in the hand down into the block, the little finger being lowest on the handle. His hand slid down over the blade. The flexor tendons were severed of the little, middle, and ring fingers. The tendons were stitched at the time of the accident. The wound healed well, but there followed only limited movement of the fingers. He complains of pain

\*Will appear in THE PRACTITIONER.

when he endeavors to straighten the fingers. The most serious condition, however, is his inability to flex the fingers. He asks if something can be done to relieve the condition. Dr. Peters thought there would be no danger in opening by incision to ascertain the condition of affairs. If the ends of the tendons were already approximated, no harm would be done; and, if not, a longitudinal incision might be made and the ends brought together, even though there might be a subsequent adhesion of the sheath with the tendon.

#### ERYTHEMA MULTIFORME.

Dr. McPhedran presented a child from the Sick Children's Hospital, suffering from erythema multiforme. Was admitted March 24. A week before a rash came out over its limbs, extending over the face and the trunk. It was itchy and patchy. Gradually grew worse. It appeared first as an erythematous eruption, becoming afterward bullous. There was a great deal of irritability of the conjunctiva and of the larynx, the latter causing a troublesome cough. The temperature was variable (chart shown), running as high as  $105^{\circ}$ . Beside the bullous condition, numerous vesicles were to be seen.

#### AIKIN'S HUMERUS SPLINT.

Dr. Peters gave a demonstration of Aikin's splint in treating fractures of the humerus. This splint, he said, was devised by his old teacher and colleague, W. T. Aikins, and was the best splint for any and all fractures of the humerus he had yet seen. He had seen no similar splint described in any work in surgery. The material used was ordinary hoop iron, one and one-eighth inches wide. Heavier or lighter strips might be used, depending on the age of the patient. Sufficient of the band was taken so as to make a posterior arm extending from the shoulder to the elbow, a continuation of the arm at the shoulder being bent down and across the chest eight or ten inches, and a continuation at its bend at the elbow along parallel to the forearm flexed at right angles for several inches, say, to the wrist. In the original splint the upper limb ran along the acromion process and spine of the scapula for five or six inches. He, the speaker, had modified this upper limb to arch over the shoulder and down across the chest in the way described. The lower limb running parallel with the forearm flexed should be, say, 3-4 inches away from the arm, so that when the upper limb is made firm to the chest and shoulder extension may be made from the lower limb by bandaging the forearm tightly to it while extension is being made on the muscles that run parallel to the humerus. This was the great feature about the splint. It allowed Nature's splints—the muscles, fasciæ, skin, blood vessels, and—nerves to act as factors in the retention of the fragments in their proper position. The



advantage this splint had over others was that it might in all cases be applied immediately, though the fracture might be accompanied by a great deal of swelling, or even be a compound fracture. The inflammatory condition of the wound might be treated as readily with the splint in position as though there was nothing applied to the arm at all. Dr. Peters then referred to each of the various fractures of the humerus, and also those complicated at the elbow with joint involvement or dislocation, and showed how it was applicable to each.

To make the application of the splint plain he applied it to a subject in the presence of the members. He pointed out that it should be well padded in all points, and made perfectly comfortable. To retain it to the chest and shoulder the best thing was a good wide strip of adhesive plaster; each strip which was used should first make one complete turn around the limb of the splint before being attached to the skin.

Dr. Oldright spoke of the value of this splint on treatment of fractures of the surgical neck. By its aid the lower fragment could be prevented from being drawn inward by the pectoralis major and the latissimus dorsi. He had used the apparatus, and could speak in the highest terms of its efficiency.

Dr. Cameron said that by putting the arm into the flexed position there was danger of exaggerating the carrying angle, which would interfere as much with the carrying angle as though it were straight. Normally the arm and forearm should be in parallel planes when the arm is flexed.

#### LOCOMOTOR ATAXIA (?)

Dr. B. E. McKenzie presented a man aged 52 who had lived, so far as was ascertainable, a regular life, excepting in the use of tobacco. He had suffered from ulcers of the toes, which for a number of years would not heal. They had now healed, however. About a year ago his right knee began to swell. This was accompanied by œdema of the leg. A marked knock-knee was produced by the increased swelling in the tuberosities of the tibia. The patient was unable to walk without assistance, nor could he stand with his eyes closed. The Argyle-Robertson pupil phenomenon was present. The patellar reflexes were absent.

The opinion of members present was that this was a case of locomotor ataxia with a Charcow's joint.

Dr. Hay read a paper on "Observations of Abdominal Surgery from a Model Sanitarium."

Society then adjourned.

## THE PATHOLOGICAL SOCIETY.

THE regular meeting of the Pathological Society of Toronto was held on April 25th. The president, Dr. G. H. Carveth, in the chair.

Present : Drs. Graham, Oldright, Amyot, W. P. Caven, McPhedran, H. B. Anderson, H. J. Hamilton, Cameron, G. Acheson (Galt), Fotheringham, Peters, F. N. G. Starr, and Mr. J. J. McKenzie.

Visitors : Drs. Harris, Boyd, Boulton, and Spence.

## PAGET'S DISEASE.

Dr. Graham presented a living specimen, a female aged 48, showing an eruption on the left nipple, which had been in existence eight months. It had commenced to the inner side of the nipple and had extended across the skin. When overheated, an abrasion of the surface occurred, and this would not heal. Upon examination during the morning, the surface appeared quite raw, but now looked partly healed. The edge is well defined. There is some induration in the gland. The question is as to whether the condition is one of simple eczema or a case of Paget's disease.

Dr. Amyot thought that a person would be unlikely to have a localized eczema for such a long period.

## LABIAL CHANCER.

Dr. Carveth presented a man who had a small growth on the lower lip. It commenced five weeks ago as a crack, and subsequently became indurated. There is an enlarged gland under the symphysis of the jaw.

The question is as to whether the condition is, chancre, epithelioma, or simple papilloma.

Dr. Oldright asked if the epitrochlear glands are enlarged.

## ATROPHY OF FEMUR.

Dr. Primrose presented the femur of a child aged 13, which had been removed by amputation a few weeks before. Two years ago he had excised the head of the femur for hip-joint disease.

The specimen was presented to show the amount of atrophy that had taken place in the bone. The atrophy is on a par with that in other parts when it occurs from disease. He called attention to the minimum amount of condensed tissue in comparison to the large quantity of cancellous bone.

Dr. Carveth asked if this does not commonly occur in amputation of a part of a limb.

Dr. W. P. Caven asked at what age the patient commenced disuse.

Dr. McPhedran thought it difficult to say how much was due to atrophy and how much to arrest of development.

Dr. Primrose said that wherever there is disuse there is atrophy. In infantile paralysis there is marked atrophy, and in dislocation of the hip.

#### TUBERCULAR TESTICLE.

Dr. Hamilton presented a specimen of D. W. O. Stewart's, of Guelph. It is thought to be a tubercular testicle. Dr. Stewart has cover-glass preparations showing tubercle bacilli in the urine, and will show them in person at the next meeting.

#### CERVICAL CARCINOMA.

Dr. Oldright showed a specimen from . . . W., aged 55, presented himself at St. Michael's Hospital, the first week of the month, with a growth on the left side of the neck about one and a half inches below and behind the angle of the jaw. He was not able to give a clear history, but from his statements, after questioning him closely, I gather that he had what he called a mole for about seven years, and that it became sore about two years ago, gradually assuming an ulcerated surface. On presentation it was about one and a half inches wide and two inches long. I removed it without unnecessary delay, keeping well away from the tumor in all directions.

A section has been prepared by Dr. Amyot, who will show it to-night, and which proves the growth to have been carcinomatous.

The point of interest is the tendency which these "moles" have to take on rapid growth and other features of malignancy after remaining apparently harmless for many years.

Dr. Graham asked for Dr. Oldright's views as to the origin of carcinoma; according to Welch, Cohnheim's theory seems still to be generally accepted.

#### ECTOPIC GESTATION.

Dr. Amyot presented a specimen for Mr. Cameron, showing ectopic gestation.

Dr. J. Spence showed a foetus from a case of extra-uterine pregnancy. The patient had menstruated last on December 24, but felt as usual until February, when she commenced to feel ill. She took to bed on April 4, though she had been very ill for two weeks before this. A mass was felt in the pelvis in Douglas' cul-de-sac, and slightly to the right. The uterus was hard, the os soft and patulous.

She was admitted to Western Hospital, April 23, and operated upon the next day. The abdomen was distended with blood. When removing clots the foetus and placenta escaped. There was a pyosalpinx in the other side. There was a history of gonorrhœa ten years before.

Dr. Carveth said that it has been stated that these cases do not occur in the country, but only in the city, where there is "gonorrhœa and pus tubes."



Dr. Oldright asked why cases are more frequent now than formerly.

Dr. Amyot showed a heart in which there was an incompetent aortic valve, and an ascending colon showing carcinoma.

Dr. J. T. Fotheringham gave the clinical history of a case of

MYOCARDITIS, PERICARDITIS, AND ENDOCARDITIS, COMPLICATING  
TYPHOID FEVER.

Patient taken ill January 20. Temperature,  $104^{\circ}$  F. in morning, after night spent at dancing party. Girl, æt. 20. Typhoid soon over—in one week or so from being first seen; temperature normal, but pulse persistently rapid—130 or so. Not much quickened by exertion, as she could move about room or into adjacent room with very little increase of rate, but up to 160 or so if friend came in to call. Possibly an example of the emotional weakness which characterizes recovery from typhoid more markedly than some other acute diseases.

March 6. Gave digitalis, 15-m. doses, three times a day. Accident in room; fall.

March 7. Treatment the same. Much excited again at breaking thermometer.

March 8. Pulse bad, 170. Called at 10 a.m.; again at 3 p.m., giving 30-m. dose of digitalis and waiting one-half hour, with result that pulse grew slower and improved. At 6.45 p.m. found her nearly moribund; pulse 210, and very bad. Stayed all night. Stimulation by strychnine, morphine, and whiskey, and mustard and ice bag to heart alternately.

March 9. Pulse 170 to 180. At 4.45 p.m.  $\frac{1}{2}$ -m. nitroglycerine, repeated each hour; pulse, at 6.50 p.m., 142, and at 7.50, 120.

March 10. Omitting nitroglycerine once (at 8.50 p.m.), it began to rise, and at midnight was 150, and at 2.15 a.m. was 138 again, and at 2.50 was 90, and dicrotic.

Valuable lesson as to persistence of degenerative changes in heart after typhoid. Digitalis detrimental, though not given till convalescence had been over a month established.

Clinical evidence showed (1) myocarditis (action of digitalis); (2) endocarditis, two murmurs very plain mitral regurgitant, and slight aortic obstruction; (3) no evidence of pericarditis.

Later in progress of case, digitalis, 10 m., and, again, strophanthus, were tried, 5 m. in enema, with same detrimental effect on heart.

Strychnine, latterly hypodermically,  $\frac{1}{30}$  grain every six hours, was used throughout.

Rate improved, but quality grew worse, more irregular, till April 13, when pulse running 100-130, but very irregular and shabby. She died very suddenly, from heart failure.

*Points.* (1) Damage probably done during night before first seen. Over-exertion, causing heart lesion. Murmur distinct when first seen in bed (none there three days before). Then cleared up for a few days; then returned, and persisted to end. (2) Absolute uselessness, or worse, of digitalis and strophanthus; proving once more the rule that for their successful use one must presuppose a healthy heart muscle. (3) Value of nitroglycerine in slowing heart—contrary to usual statements in text-books of Lauder Brunton's simile *re* "engine on slippery rails."

Dr. H. B. Anderson gave an account of the post-mortem on this case and showed the heart:

Post-mortem staining. Very little subcutaneous fat.

*Abdomen.* Considerable amount of serous effusion into peritoneal cavity. No signs of any inflammation.

*Thorax.* Large amount of clear serous fluid in both pleural cavities. Very slight amount of pericardial fluid. No pericardial adhesions.

*Lungs.* Hypostatic congestion.

*Liver.* Nutmeg.

*Kidneys.* Pelvis bile-stained, surface granular, capsule slightly adherent, kidneys enlarged.

*Spleen.* Partly enlarged and congested.

*Heart.* Weight 33 ounces. Stopped in diastole. Ante-mortem and post-mortem clots. Left auricle dilated and full of clots.

*Heart muscle.* Firm, pale. Inferior cava much enlarged. Superior cava normal. Left ventricle,  $\frac{7}{8}$  inches; left auricle,  $2\frac{1}{2}$  lines. Right ventricle,  $\frac{1}{4}$  inch; right auricle,  $2\frac{1}{2}$  lines. Aorta abnormally small.

*Valves.* Tricuspid admits five fingers. Length  $4\frac{1}{8}$  inches. Septal cusp, thickened and retracted, held down by chordæ tendinæ. Infundibular and external cusps normal.

*Pulmonary.* Normal. Length  $3\frac{5}{8}$  inches.

*Mitral.* Thickened and orifice stenosed, fatty degeneration of chordæ tendinæ. Length  $3\frac{1}{8}$  inches.

*Aortic.* Orifice stenosed, chronic, fibrous, and thickening. Length  $2\frac{5}{8}$  inches. Valve next mitral torn away from position, forming a nodular mass which hangs into ventricle. No sinus of valsalva.

One coronary artery atheromatous.

Dr. Acheson, Galt, said that he has a patient at the present time who has a heart that he thinks would closely resemble the one shown by Dr. Anderson. The patient has ascites (chylous).

Dr. Amyot showed a specimen of papilloma of the ovary for Mr. Cameron.

#### NÆVI.

Dr. Starr presented two specimens of nævi.

(1) The large one was removed from the back of an infant six months old. It commenced at birth as a tiny red spot in the skin. It was situated in the middle line between the scapulæ, and clinically resembled a spina bifida. It was circular in shape, and measured one inch and a half across, and was pedunculated and projected from the back fully an inch. It was removed without difficulty. He presented microscopic slides which showed a large amount of rapidly proliferating connective tissue cells, closely resembling sarcoma.

(2) The small one was removed from the forehead of an infant aged fifteen months. It had suddenly commenced to enlarge. Microscopically it presented a similar appearance.

Mr. Cameron thought that many of these cases may properly be looked upon as *angeio-sarcomata*.

Dr. Amyot thought the slides very much like sarcoma.

#### SPINA BIFIDA.

Dr. Boulton showed a specimen of spina bifida. Deformity in lumbar region. At birth the sac was half the size of an orange, umbilicated, but not tense. On examination when twenty-four hours old the sac was twice as large and tense, tension increasing on coughing and crying. Membranes were very thin and delicately traced over surface with vessels, and apparently it was a spinal meningocele. In two days there were small areas of pus under the membranes; one week after the sac was broken and discharged pus; in three days more there was no sign of membranes, but only a thickened surface over the region of the spina bifida, discharging pus from the centre, which was much depressed. Treatment, local antiseptic and laxative. All symptoms of meningitis from the first. Child died at age of sixteen days from tetanus causing starvation. Post-mortem, showed much thickening of membranes, and inspissated pus, cord in position. Growing from the posterior surface of the anterior portion of the dura mater, in the middle line, and a little higher than the centre of the spina bifida, was an oval, hard, bony nodule, about the size of a pea, firmly attached to the dura mater, but not to the body of the vertebra, being movable, direction directly backwards into the cord. Child born one month after expectation of full term; labor, precipitate; presentation, foot. One foot was club-footed. Previous child of same mother had evidently been dead some weeks before labor.

Dr. Peters showed three card specimens.

(1) Fragments of bone from a case of compound comminuted fracture.

(2) Tubercular testicle.

(3) Fingers, from a child, showing the amount of damage that may be done to internal structures without affecting the skin to any very great extent.



Dr. Primrose asked if the tubercular process originated in the testicle or in the epididymis. Or, may it not have come from a primary lesion at the neck of the bladder and have extended to the vesiculæ seminales? Suppose the disease is already in the neck of the bladder, was there any use in removing the testicle?

Dr. Peters said primary disease of epididymis is very common, and of the testicle rare. It is common to find the disease extend from the testicle to the bladder; uncommon to find it spread from vesiculæ seminales to testes. Primary disease of both epididymes has occurred. In the case from which the specimen came the prostate is hard, and the vesiculæ seminales can be felt, but no nodules could be discovered.

The nomination of officers was then proceeded with.

The meeting then adjourned.

## RESULTS OF FINAL EXAMINATIONS, 1896.

### UNIVERSITY OF TORONTO.

Passed the final examination with honors : M.B.

*Medicine.*—Class I.—C. Graef, E. L. Roberts, A. S. McCaig, A. H. Macklin, W. Goldie, G. S. Burt, J. A. Rannie, W. H. Nichol, T. H. Bier, W. B. Gwyn, I. G. Smith, equal ; F. W. Hodgins, D. K. Smith, equal ; E. B. White, E. L. Robinson, Miss C. Sinclair, equal ; G. More, D. Buchanan, S. H. Westman, C. G. Thomson, equal. Class II.—E. M. Hooper, A. W. Partridge, J. A. Marquis. Class III.—W. J. Beasley, T. C. Bedell.

*Clinical Medicine.*—Class I.—Goldie, McCaig, Robinson, equal ; Graef, Westman, equal ; Beasley, Bier, Marquis, equal ; Roberts, Hodgins, Macklin, Nichol, Rannie, White, equal. Class II.—Partridge, Bedell, Burt, Gwyn, Hooper, D. K. Smith, I. G. Smith, equal ; More ; Miss C. Sinclair, Thomson, equal. Class III.—Buchanan.

*Surgery.*—Class I.—Roberts, Nichols, Macklin, McCaig, Thomson, Beasley, Graef, Miss C. Sinclair ; Goldie, Rannie, D. K. Smith, equal. Class II.—Hooper, More, equal ; Westman ; Buchanan, Hodgins, White, equal ; Bier, Partridge, Robinson, Burt, equal. Class III.—I. G. Smith, Bedell, Gwyn, Marquis.

*Clinical Surgery.*—Beasley, Goldie, Graef, Hodgins, Hooper, McCaig, Marquis, Roberts, Robinson, Miss C. Sinclair, D. K. Smith, I. G. Smith, White, equal ; Bedell, Buchanan, Burt, Gwyn, Macklin, More, Nichols, Partridge, equal. Class II.—Bier, Rannie, Thomson, Westman, equal.

*Surgical Anatomy.*—Class I.—Hodgins, Roberts, equal ; Graef ; McCaig, I. G. Smith, equal ; Partridge, Goldie ; Bier, Rannie, Westman, equal. Class II.—Macklin ; Robinson, Miss C. Sinclair, White, equal ; Burt, Hooper ; Buchanan, Gwyn, equal. Class III.—Beasley, More, equal ; Nichol, Marquis, D. K. Smith, Bedell, Thomson.

*Obstetrics.*—Class I.—Partridge ; Nichol, Roberts, equal ; Westman, McCaig, I. G. Smith, Rannie, Macklin, Hodgins, White, Graef ; Beasley, Gwyn, equal. Class II.—Buchanan, Thomson, Burt, Robinson, Bier, Goldie, Miss C. Sinclair. Class III.—Marquis, More, Bedell, Hooper, D. K. Smith.

*Gynæcology*.—Class I.—Goldie ; Bier, Graef, Roberts, equal ; Burt, McCaig, equal ; Rannie, Marquis, Partridge ; Hodgins, Macklin, equal ; Nichol, Robinson, equal ; Bedell, Gwyn, Thomson, equal ; I. G. Smith, D. K. Smith, White, more. Class II.—Miss C. Sinclair, Westman, Beasley, Buchanan. Class III.—Hooper.

*Medical Jurisprudence*.—Class I.—Westman, Macklin, Goldie, McCaig, Thomson, equal ; Burt, Nichol, equal ; Buchanan, Rannie, Roberts, Robinson, D. K. Smith, White, equal. Class II.—Beasley, Bier, Graef, Hodgins, Hooper, equal. Class III.—Gwyn, More, equal ; Bedell, Marquis, Partridge, equal ; Miss C. Sinclair, I. G. Smith, equal.

*Pathology*.—Class I.—Goldie, Graef, equal ; Rannie, Gwyn, Macklin, equal ; Bier, Roberts, Buchanan, McCaig, equal ; Miss C. Sinclair, White, equal ; More, Robinson, Nichol, Westman. Class II.—Hooper, Beasley, Hodgins, equal ; Partridge, Thomson, I. G. Smith. Class III.—Bedell, D. K. Smith, Burt, Marquis.

*Hygiene*.—Class I.—Graef, Roberts. Class II.—Macklin, Rannie, equal ; Goldie, Bier. Class III.—Beasley, Miss C. Sinclair, Buchanan, McCaig ; Nichol, Partridge, equal ; Thomson, Robinson ; Burt, White, equal ; Marquis ; Bedell, D. K. Smith, I. G. Smith, equal ; Westman, Hodgins, Gwyn, Hooper, More.

*Medical Psychology*.—Class I.—McCaig, Nichol, Rannie, equal. Class II.—Graef, Roberts, equal ; Miss C. Sinclair, Westman, equal ; Burt. Class III.—Bier, Marquis, I. G. Smith, Thomson, equal ; Goldie, More, D. K. Smith, White, equal ; Buchanan, Hodgins, Macklin, Partridge, equal ; Robinson, Hooper, Gwyn, Beasley, Bedell.

*Passed the Final Examination, M.B.*—E. H. Arkell, J. F. Boyle, B. G. Connolly, G. E. Cook, D. T. Crawford, F. A. Dales, G. A. Elliott, W. F. Gallow, A. Gray, W. J. Henderson, E. S. Hicks, A. G. Hodgins, W. W. Jones, D. McCallum, J. M. Carter, C. S. McKee, D. C. McKenzie, W. J. O. Mallock, J. S. Morris, N. W. Price, J. H. Rivers, H. H. Ross, W. L. Silcox, R. H. Somers, F. C. Steele, J. S. Thorne, W. J. Weaver.

*Scholarships and Medals*.—Starr Medals—Gold (under the old curriculum)—J. A. Rannie. Gold (under the new curriculum)—T. W. G. McKay. George Brown Memorial Scholarship—For this scholarship the following candidates rank in the order named : W. Goldie, E. L. Roberts, J. A. Rannie, A. H. Macklin, C. Graef, and E. B. White. Second Year Scholarships—J. G. Hossack, M. M. Crawford. First Year Scholarships—W. Wells, J. R. Stanley. Degree of M.D.—Mr. T. W. G. McKay, M.B.

#### TRINITY UNIVERSITY.

*Degree of M.D.C.M.*—G. S. Cameron, J. R. McRae, H. Clare, W. J. Beatty, W. H. Weir, E. S. Hicks, G. V. Harcourt, D. Jamieson, N. J. Tait, V. A. Hart, C. H. Millbee, G. W. Barber, P. G. Goldsmith, Miss T.



G. Head, C. H. Brereton, J. S. Nedd, J. J. Elliott, J. Gibbs, W. M. Teetzel, W. A. McIntosh, W. S. Harper, J. H. Rivers, H. S. Roberts, S. H. Corrigan, J. H. Allin, A. W. M. Row, F. J. Hart, G. Welch, Miss M. H. Irwin, J. H. Oliver, J. D. Weir, E. H. Lapp, A. Ruppert, Miss A. Verth, J. B. McMurchy, R. H. Foster, W. G. B. V. Forbes, J. P. Lee, P. S. MacLaren, W. H. Taylor, A. A. Beatty, C. R. Sneath, C. H. Sills, C. H. Smith, L. H. Marks, T. H. Bell, E. B. Boyes, E. Doan, J. H. Dancey, T. H. Caldwell, A. F. Reynar, H. G. M. Nyblett, W. A. Kurtz, G. B. Mills, R. Moore, J. B. Thomson, E. A. Fraser, J. McDonnell, G. Krausmann, and J. S. Shurie.

#### QUEEN'S UNIVERSITY.

*Degree of M.D.*—J. Boyle, B.A., Gananoque; P. McG. Campbell, B.A., Admaston; J. J. Downing, B.A., Kingston; A. Embury, Belleville; J. C. Gibson, M.A., Kingston; H. N. Gillespie, Barriefield; C. H. Hudson, Belleville; W. H. Irvine, B.A., Kingston; A. W. Irwin, Kingston; A. W. Jones, Watertown, N.Y.; W. B. Rayler, Morrisburg; W. D. Lyle, Morrisburg; A. A. Metcalf, Almonte; T. F. Mooney, Kingston; H. G. Murray, Kingston; J. F. Macdonald, Kingston; C. McPherson, Prescott; E. W. Teepell, Watertown, N.Y.; B. E. Webster, B.A., Kingston.

*Medallists.*—H. G. Murray and P. McG. Campbell are the medallists of the year.

#### UNIVERSITY OF MANITOBA, WINNIPEG.

*Degree of M.D.*—Carmel Lorenzo Davidson, B.A., Louis Simeon Gendreau, B.A., Edward Lorne Jackson, John Thornton Mutchmor.

*Degree M.D., C.M.*—John Brown, B.A., George Edmund Curtis, John Ralston Davidson, B.A., Thomas Grant, Joseph Andrew Hall, B.A., George Henderson, M.A., Lewis A. Knight, Robert Macgregor, M.A., James Russel McRae, Alexander Stewart Monro, Arthur Percival Proctor, George Wilber Staples, Bernard Samuel Story.

#### BISHOP'S MEDICAL FACULTY, MONTREAL.

*Degree of M.D.*—George Hall, Ernest J. Addison, Mary B. Fyfe, James J. Benny.

#### M'GILL UNIVERSITY, MONTREAL.

*Degree of M.D., C.M.*—E. W. Archibald, B.A., J. F. Argue, C. R. Ault, S. Bonnell, J. M. Brathwaite, P. Brunelle, F. B. Carron, C. H. Church, H. M. Church, J. L. Churchill, B.A., P. Colquhoun, B.A., F. A. F. Corbett, B.A., R. H. Craig, A. P. Crocket, G. R. Deacon, J. E. Dewar, M. Donahoe, L. Drum, B.A., F. J. Duckett, F. B. Elliott, G. H. Ellis, R. B. Ewan, J. A. Ferguson, C. Findlay, E. C. Fish, W. M. Fisk, A. D.

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*Medals and Prizes.*—The Holmes medal is awarded to George Dougall Robins, B.A., of Montreal, Que.; the final prize is awarded to George Reginald Deacon, of Stratford, Ont.; the Clemesha prize is awarded to Robert Oswald Ross, B.A., of Rossville, N.S.; the Clinical Chemistry prize is awarded to Frederick Burke Carron, of Brockville, Ont.; the Senior Anatomy prize is awarded to William Oliver Rose, of Lakeville, P.E.I.

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## Medical Items.

DR. J. P. SINCLAIR has resumed practice in Gananoque.

DR. THOMAS W. JEFFS (Tor., '95) is practising in Union, B.C.

DR. CHARLES CARTER, French River, is spending his holidays in Toronto.

DR. MCCONNELL (Tor., '95), who has been doing duty as house surgeon at St. Michael's Hospital, has gone to Big Bay Point for the summer.

DR. THOMAS S. CULLEN (Tor., '90) spent a few days in Toronto early in June. He is likely to remain in Baltimore for two or three more years.

DR. L. M. SWEETNAM has returned to Toronto after a stay of some months in Florida and the West Indies. We are glad to be able to announce that his health is greatly improved.

ASSOCIATE CORONERS.—The following associate coroners have been appointed : Dr. John Marks Stewart, of Chesley, for the county of Bruce ; Dr. Alfred Skippen, of Grand Valley, for the county of Dufferin ; Dr. Michael James, of Mattawa, for the district of Nipissing.

KITSON v. PLAYFAIR.—The appeal of the defendent in this case was set down for hearing on April 30, but Sir Frank Lockwood, counsel for the defendant, stated that it would be unnecessary to trouble the court, as terms had been arranged between the parties in accordance with which the appeal would be withdrawn. The terms of settlement were not made public.

TORONTO GENERAL HOSPITAL.—The following graduates of 1896 entered on their duties as house surgeons of the Toronto General Hospital, June 15 : Trinity Medical College—W. H. Weir, Brantford ; J. J. Elliott, Brantford ; C. H. Brereton, Schomberg ; A. A. Beatty, Toronto. Toronto University—J. A. Rannie, Chatham ; C. Graef, Clifford ; S. H. Westman, 26 Rose avenue, Toronto ; W. J. O. Malloch, Meaford.

ROMAN fever is almost a thing of the past. From 650, in 1881, the deaths from malaria ran down to 254 in 1891, while for the last five years the average has been 149, the number in 1895 being 125. These figures are all the more significant in that the population of Rome has increased from 300,000 to 467,000 in fifteen years. An equally remarkable diminution has taken place in the death rate for all other infectious diseases, so that Rome, even in the traditional unhealthy season, is one of the most healthy capitals in Europe.

THE NILE EXPEDITION : THE NEW PHOTOGRAPHY.—Our Army Medical Department is fully alive to the value and importance which the new photo-

graphy is likely to have in military surgery. It is, we believe, by no means improbable that even in the field hospitals connected with our African expeditions it will be found possible to use the now greatly perfected apparatus for the more accurate diagnosis and treatment of wounds and injuries from the presence of foreign bodies and bullets in the body. At the Netley Hospital Medical School this week, Mr. Sydney Rowland attended by invitation of Surgeon-Colonel Stevenson, and gave information concerning the most advanced application of the Roentgen rays for purposes of military surgery, taking on the spot successful photographs of the bones in a rare case of fracture into the knee-joint, of which excellent negatives were developed. Special arrangements were discussed by which the needful apparatus could be put into a highly portable form, and, with some modification of present methods, adapted to field use, even in the desert.—*British Medical Journal*.

**RADICAL CURE BY FIRE.**—The Harris District Committee of the Inverness-shire County Council have made a proposal to the Public Health Committee to destroy by fire several hundred of the "black houses" in Harris for sanitary reasons, and to apply to the government for a grant towards the cost of building new dwellings in place of those destroyed. Dr. Ogilvie Grant, county medical officer, submitted a report upon the subject, which presents a most melancholy picture of the existing condition of affairs. These houses consist of three compartments, with a single door of entrance. The first compartment is used for housing the cattle, and there the manure is allowed to accumulate for a twelvemonth at a time. The second compartment, or kitchen, is separated from the first by a rudely constructed wooden partition; sometimes there is no partition at all. The innermost compartment is the bedroom, occupied by the whole family, irrespective of age or sex. The walls have a stone facing within and without, the centre being filled in with earth, which is kept damp by the rain passing through the roof. The fire is in the middle of the floor, and the smoke escapes as it may. Typhus, typhoid, phthisis, and a high infantile mortality follow in the train of these conditions. The legal remedy is, of course, to close the houses; but such a measure would simply result in turning the inmates out on the moors. The tenants, crofters and cottars, have not the wherewithal to provide better houses. The people, Dr. Grant says, are most industrious in the manufacture of Harris tweeds, but the remuneration is scanty. The proposal is that the government should come to the aid of these people, and provide a grant out of which the necessary wood fittings and lime would be supplied for the erection of more wholesome dwellings. The problem is a difficult one, but under the exceptional circumstances of the case the proposal would appear to be not an unreasonable one.—*British Medical Journal*.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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### THE DIAGNOSIS OF TYPHOID FEVER.\*

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By G. R. CRUICKSHANK, B.A., M.D., L.R.C.P.S. EDIN.,  
WINDSOR, ONT.

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NEXT to phthisis, there is no disease so often under consideration in Ontario; and, excepting diphtheria, no other which receives so much scientific attention as typhoid fever.

A medical text-book of ten years ago is pretty safe reading on almost any subject but this. A short time ago a mortality of nineteen per cent. was considered a good result. Brand, after many years, convinced the profession that his revival of the cold-water cure would reduce the death rate more than one-half; and now Dr. W. B. Thistle, of Toronto, by an elaboration of another old plan, claims to reduce the death rate very much more. Some time after the publication of Dr. Thistle's results, Dr. Woodbridge, of Ohio, laid claim to a similar plan, which he has modified into a specific, and produces a list of cases to show that the mortal-

\* Read before the Ontario Medical Association, Windsor.



ity is only a fraction of one per cent. With reference to these claims, physicians in whom we have the greatest confidence reply that the majority of these cases were not typhoid at all. The sincerity of both sides cannot be doubted ; so that the question of diagnosis becomes a matter of some concern.

Windsor offered a peculiar opportunity for studying this disease lately. Walkerville sewer opens about half a mile above the Windsor waterworks, the intake pipe of which extends 400 feet and 40 feet deep in a current of three miles an hour. On February 9 the manure tank of the cattle barns in connection with the distillery at Walkerville overflowed ; at the very same time needle ice blocked the strainer of the intake, so that a valve at the shore was opened till the outer opening could be cleaned. This unusual combination of circumstances brought it about that manure slightly diluted was pumped into our kitchens for breakfast. On February 15 commenced an outbreak of fevers, the diagnosis of which is the text for my paper to-day. Some of my medical colleagues considered them all typhoid, others that only the severe cases were worthy of the name, while one or two maintained that none of them were typhoid. I do not intend taking up time by referring to typhoid-like fevers caused by peritonitis, pleuritis, pneumonitis, *ostitis*, corditis, tuberculosis, or pyæmia, although I might tell of mistakes of my own with tubercular peritonitis and osteomyelitis during this very epidemic. But while a discussion of these fevers might be as interesting as the diagnosis is difficult, still these are not matters of dispute, and will be passed over. The real difference of opinion commences with the consideration of mild and abortive fevers. One physician says "typhoid ;" another says, "Nothing of the kind, only malaria, or bilious fever, or, perhaps, gastrointestinal toxæmia."

The matter of malaria is easily disposed of. The occurrence of the parasite in the red-blood corpuscle is sufficient and pathognomonic. There are several specimens under microscopes in the lobby for your inspection. The plasmodium in these specimens can be readily made out in several stages of development ; in some a small spot like a vacuole in a red-blood corpuscle, in others almost filling it. For purposes of diagnosis a drop of an alcoholic solution of methylene blue is allowed to run over a clean slide, which is set aside to dry. The lobe of the ear, chosen because insensitive, is well washed with soap and water, then with alcohol, and is pricked with a clean needle with cutting edges. Wipe off the first drop and touch a well-cleaned cover glass upon a drop no larger than a pin head. This is quickly laid upon the slide and the edges sealed with vaseline or melted paraffin. Such a preparation will last several hours, and can be examined at one's leisure. Thin, in the Medical Annual of 1896,

describes a method of drying blood so that it will keep indefinitely for examination.

Without the microscope, to distinguish between typhoid and malaria is difficult in malarial districts; but if the commonest kinds of malaria are absent, surely one would not expect to find the rare typhomalarial fever. During six years I have not seen a case of intermittent fever in Windsor, except those that have come from elsewhere. I have examined the blood of typhoid patients suffering from chills, and have not found the malarial parasite, while I had no trouble in making them out in intermittent cases from Dover flats. No doubt a person suffering from malaria might contract typhoid, but the resultant could hardly be that tame affair commonly called typhomalaria. Dr. Osler says: "Among 333 cases of malaria and 389 cases of typhoid fever treated at Johns Hopkins Hospital in no instances have the diseases been concurrent."

It is when we try to distinguish between mild typhoid and simple continued or gastro-intestinal fever that our troubles begin. For some time prior to February 9 there was no fever in Windsor, nor has there been any since April. About one week after the drinking of the manure water fevers commenced, and by the end of the month there were about two hundred cases of all kinds of virulence, some lasting a few days and some several months. On February 15 Mrs. H. was taken ill with a fever which developed almost every symptom of typhoid that could possibly occur, and passed into a tedious convalescence in four weeks. On February 25 her daughter, aged 12, was found with a temperature of  $103^{\circ}$ , with typhoid symptoms. The fever subsided in five days, after which the patient remained in bed a week and continued well. On February 28 George H., aged four years, was first examined, and his temperature was found to be  $102^{\circ}$ . In three days it reached normal, and three days later his importunities gained him his freedom. In five days his fever returned and lasted four weeks. Case No. 1 was as certainly typhoid as any ever described; nothing was wanting to complete the diagnosis but a post-mortem. Case No. 2 was probably due to the same cause, but seen first during the second week; while Case No. 3. aborted in three days, and for lack of care reappeared and continued for four weeks, with symptoms satisfactory to the most skeptical. From February 15 till March 31, in my own practice there were thirty-four cases, of which nine were abortive. "Jurgensen mentions an outbreak near Kiel where fourteen out of twenty cases were abortive."

I am not claiming that treatment can abort typhoid, or that it cannot, but that the fever does abort of itself, perhaps much oftener than we imagine. It is strange that some careful physicians deny that typhoid ever aborts, while they readily admit that pneumonia and smallpox often terminate in a few days.

In some cases it is impossible to distinguish between typhoid and gastro-enteritis. Vaughan refers to cases where typhoid symptoms, even to perforation of the intestines, have been produced by ptomaines, in the formation of which Eberth's bacillus played no part. It is as much a mistake to call every mild continued fever gastric as to call every severe one typhoid. Rodet and Roux conclude that Eberth's bacillus is only a degenerate form of bacterium coli commune, brought about by altered environment. If this be true, then there is some excuse for the too frequent remark that "it has turned into typhoid." Yet the post-mortem appearances of this disease are so distinct and characteristic that we conclude it has a specific cause; that typhoid is always typhoid from the start, and never a development of any other disease; nor can we believe that the always present and innocent bacterium coli commune can cause it under any circumstances. It is now usually agreed that a group of pathogenic germs not yet diagnosed may give rise to typhoid fever with the typical intestinal lesions. The typhoid germ and its product is allied with a great variety of germs, and their toxins give rise to an endless variety of symptoms.

No one symptom, nor, indeed, can any two, or even three, be mentioned which may not be irregular or absent in undoubted cases of typhoid, and, on the other hand, there is not one of the usual symptoms which may not be present in other diseases.

Dr. Bonning, of Detroit, performed an autopsy to find the cause of sudden death, and learned that it was caused by perforation of typhoid ulcers, although the man had presented no symptoms of that disease. More reliance must be placed upon the occurrence of rose spots than upon any other one symptom, yet this rash often occurs in other diseases, such as miliary tuberculosis; and, on the other hand, such a careful observer as Fagge says he has failed to find them in many cases in which careful search was made every day. There are few physicians who, misled by the temperature, have not regarded other ailments as typhoid, while, on the other hand, cases of typhoid where the fever is absent or irregular are not uncommon.

Leibermeister describes cases without any fever, and Dr. Strube, a surgeon in the German army at the siege of Paris, describes an outbreak among the troops in which twenty-three cases were fatal. In many of these the temperature was subnormal throughout, and in others it never went above normal, yet characteristic lesions were found on post-mortem.

Much was expected from the examination of the excreta. It has long been advised to strain the feces for shreds of typhoid ulcers. Of course, their presence would be more conclusive than their absence. The bacteriological examination is not satisfactory, because Eberth's bacillus in



fæces cannot be distinguished with certainty ; besides, the intestines and their contents are often quite free from this bacillus, while it is found in abundance in other organs. There are several specimens of these bacteria under microscopes in the lobby, illustrating this difficulty of diagnosis.

So instances might easily be produced to show that no symptom is infallible. As one aid in making a diagnosis in doubtful cases, Ehrlich's diazo-reaction is very useful. This is well discussed in Johns Hopkins Hospital Medical Reports, Vol. 4, No. 1.

For the performance of this test two solutions should be kept on hand : (1) a 5 per cent. solution of hydrochloric acid in a saturated solution of sulphanic acid ; and (2) a  $\frac{1}{2}$  per cent. solution of sodium nitrite. When required for use 40 c.c. of the former and 1 c.c. of the latter are mixed together. Equal parts of this mixture and urine are shaken together, and strong ammonia added. If positive results are obtained, a characteristic pink tinge is seen in the foam, and at the junction of the ammonia with the fluid a dark garnet ring appears. When the tube is shaken a uniform red color is the result, and upon standing an olive-green precipitate is deposited. This reaction occurs in other diseases, especially in those of a chronic nature, accompanied by much wasting, and in a few febrile infectious diseases, such as, occasionally, in acute rheumatism, meningitis, and pneumonia, usually in typhus fever and measles, and it is sometimes absent in typhoid fever, especially after the first or second week.

In the management of a case of continued fever, the nurse should be instructed to note the temperature, pulse, and respiration at regular intervals and often. Tuberculosis, septicæmia, and fevers characterized by inflammations of such organs as the liver, lungs, pleura, heart, or bones, should be carefully excluded. The presence or absence of any one or two symptoms of typhoid should not be considered important. No matter how distinct the case seems to be, this process of exclusion should be repeated again and again. It is very humiliating, after considering a case as typhoid a week, to have to confess that we are treating pleurisy. The suspicion of malaria should be set at rest by the microscope.

If we are confronted with a mild case, not malarial, which we would be tempted to call simple continued fever, Ehrlich's urine test will afford important information. Van Noorden says that "a mild afebrile or sub-febrile disease with an outspoken diazo-reaction must always be considered as strongly suspicious of typhoid fever." If, moreover, one is able to discover Eberth's bacillus in the fæces or spots, the corroboration would be very strong.

Our opinions of a mild fever should be influenced very largely by its surroundings. Its occurrence with undoubted typhoid or malaria cases should point to it with suspicion. If we have satisfied ourselves that the

fever is really typhoid, and good for three or four weeks, we should not be surprised nor compelled to confess a mistake in diagnosis if it should terminate in three or four days.

Osler says the death rate is  $7\frac{1}{2}$  per cent.; yet if a conscientious confrère should publish a list of 100 cases without one death, we should not accuse him of mendacity or ignorance, nor should we conclude that he had an unusually good plan of treatment, but rather that he happened with a series of the mild type, which hospitals seldom see.

## UNUSUAL FEATURES IN THE CLINICAL HISTORY OF ADENOID DISEASE.\*

BY PRICE-BROWN, M.D.,

TORONTO.

SO much has been written during the last two or three years concerning this prevalent affection of the naso-pharynx that I shall refrain entirely from speaking of the etiology, pathology, and symptoms of the disease, as it usually occurs; and confine my remarks to the clinical history of a few somewhat unusual cases.

In the experience of every physician, cases of more than ordinary interest are occasionally met with, and they are, as a rule, worth recording; as they stand out like landmarks, to help to guide him in his future contest with diseases of a similar character. It is of cases such as these that I wish to speak to-day. Possibly when brought to the light of the professional experience of the members of this section they may not be unusual at all. Still, as such cases can at the most only occur occasionally a brief statement of them can do no harm; while it may have the effect of putting an unwary brother on his guard, and possibly may stimulate him to keener investigation when opportunity occurs.

CASE I. W. D, æt. 7 years, October, 1892. Has had right otitis media catarrhalis chronica for years, accompanied by deafness of the right ear. No history of either scarlet fever or measles. All his lifetime had been a mouth breather. On examination I found imperfect hearing also on the left side. There was almost complete absence of right drum membrane, and a large papilloma was attached to the remaining margin. On examining the pharynx the vault was found to be filled with adenoids and the faucial tonsils greatly hypertrophied. There was little doubt that the pressure upon the Eustachian tube by the pharyngeal tonsil had produced the ear disease.

Under chloroform narcosis the papilloma was removed from the auditory meatus; the adenoids taken away by digital operation; and double tonsillotomy done by Mathieu's instrument—all during one administration of the anæsthetic.

\* Read at the Laryngological section of the American Medical Association, Atlanta, Georgia, May, 1896.



In this case the operative work was too late to restore the hearing in the right ear, though it improved that in the left. The nasal and throat symptoms disappeared, but the cataarrh of the right ear continued, though in a minor degree. After some months the case was lost sight of.

CASE 2. Miss B. R., æt. 23 years, April 6, 1893. Has been gradually becoming deaf for two years. Both ears equally affected. Cannot hear tick of a watch on either side more than half an inch from the head. Impossible to open Eustachian tube on either side by Valsalva's method. Before coming to me she had been treated professionally for deafness without any improvement; Politzer's method of inflation being used—also daily application of ear-drops.

Examination proved the pressure of a large hypertrophied pharyngeal tonsil, filling the upper pharynx, pressing the palate forwards and producing complete nasal stenosis. The faucial tonsils in this case were not particularly large. As the adenoids were soft and lymphoid in structure, I decided to operate digitally, believing that the entire growth could be removed more effectually this way than by the use of instruments. A 15 per cent. solution of cocaine was applied freely with a post-nasal cotton holder, modifying to some extent the pain of ablation. The first operation was confined chiefly to the right half of the growth, and was accompanied by considerable hæmorrhage. The nasal stenosis was relieved, but not the deafness.

April 7. Digital operation repeated, chiefly on left side. Hæmorrhage free as before. Nasal stenosis completely removed. No immediate improvement in hearing.

April 8. While blowing the nose after breakfast, the patient heard a sharp report in left side of head; and immediately could hear the conversation going on in the room—the first time that she had been able to do so distinctly for more than a year. The hearing, however, was confined to the left side, being caused by the accidental valsalva—dilatation of the left Eustachian tube, and entrance of air into the middle ear.

The return of hearing on the right side was more gradual, each day being slightly better than on the previous one.

April 11. Removed by finger-nail the remaining remnants of the adenoid tissue. The discharges from the naso-pharynx during the healing process were aided by spraying through the nose with albolene, the patient inhaling forcibly each time that the atomizer was used.

April 22. Came last time for examination and treatment. Hearing fully restored. Could hear watch tick on either side at a distance of six feet from the ear.

CASE 3. N. J. McK., æt. 20 years, June, 1893. Has been suffering for two years from buzzing in his left ear. Had been treated profession-

ally six months previously, but with little improvement. He complained particularly of the effect of his own voice, whether used in ordinary speech or in singing. He said it sounded as though the voice reached the ear through the throat on the affected side, no similar effect being produced in the right ear. He had a worried, anxious expression of face, and said that during the period mentioned he had lost much in flesh.

On examination I found the uvula elongated, and the vault of the pharynx filled with a large flattened tonsil, the left side of it being attached by a broad cicatricial band to the superior-posterior lip of the corresponding Eustachian tube, binding it backwards. There had evidently been a shrinkage of a former tonsillar hypertrophy ; which, dragging on the Eustachian attachment, had produced an almost funnel-shaped form to the orifice of the tube. This unusual condition appeared to be the cause of the voice-ringing complained of.

After applying a 15 per cent. solution of cocaine, I curetted out the adenoid enlargement ; and then separated the attachment to the lip of the Eustachian tube with the finger-nail. The result was that the throat voice sounds diminished, and in a few days disappeared.

Four months later the patient, being in the city, returned for examination. There was improvement in facial expression and in weight, as well as tone of voice. He said the throat sounds had never returned since the time of operation.

CASE 4. A. B., æt. 5 years, September, 1894. Mouth breather, suffering from nasal stenosis, owing to the pressure of adenoids in the naso-pharynx. Faucial tonsils not materially enlarged. A professional confrère administered chloroform. Not more than half a dram had been given when respiration suddenly ceased. On forcing the mouth open, the ball of the tongue was found resting well backwards over the larynx, filling the lower pharyngeal cavity. Cyanosis developed quickly ; but drawing the tongue forward with forceps, and the practice of artificial respiration, soon restored the natural breathing. The operation was then performed digitally, without any further untoward result.

CASE 5. Alice G., æt. 9 years, June, 1895. Pale, flabby, exsanguineous girl, lacking in the energy usually possessed by children of her age, not from mental habitude, but from impoverished blood. Faucial and pharyngeal tonsils unusually large. Chloroform being administered, double tonsillotomy was performed ; and then the pharyngeal tonsil removed by digital operation. There was the usual amount of hæmorrhage at the time ; but it abated, and became almost *nil* in a few minutes.

Three hours later, while resting quietly on the sofa, hæmorrhage from the upper pharynx commenced again ; and, becoming profuse, alarmed the parents. I was sent for and arrived at the house half an hour later,

to find the bleeding gradually becoming less. Interference was not necessary, and it did not recur again. This is the only case of recurrent hæmorrhage after ablation of the pharyngeal tonsil that I have ever seen.

A few days later, when I next saw the patient, there was extensive ecchymosis of the soft palate. This went through the usual stages of such an affection, and several weeks elapsed before it entirely disappeared. This is also out of a large number of operations for the removal of adenoids, the only instance in which I have observed ecchymosis as a result of operation.

CASE 6. V. R., æt. 9 years, February, 1896. Had a severe attack of diphtheria several years ago, since which time she has suffered from irritable throat and nasal stenosis. On examination, I found both faucial tonsils irregularly enlarged, and a copious supply of adenoids in the nasopharynx. My intention was to operate first on the faucial tonsils with the galvano-cautery; and then, while still under the influence of the anæsthetic, to remove the adenoids.

A physician administered chloroform by dropping it upon the gauze of an ordinary inhaler. The patient took it quietly, and with very little resistance. Not more than thirty or forty minims could have been taken when it was noticed that breathing had stopped. I at once drew forward the tongue with forceps; while my assistant, after practising inversion, commenced artificial respiration by Sylvester's method. This had to be continued for fully fifteen minutes before breathing was properly restored. By this method air was drawn into the lungs and expelled again; but the slightest cessation of the artificial means would stop the breathing and increase the cyanosis. By the end of the period mentioned natural respiration had returned. The child was still unconscious, and the galvano-cautery operation on the tonsils was at once performed. Returning sensibility seemed to be indicated by moaning, but as the administration of an anæsthetic again, chloroform at least, would at any time in the near future be a dangerous procedure, the gag was again inserted, and the adenoids also removed. There was a good deal of hæmorrhage, and the child screamed loudly during the operation; but half an hour later, when consciousness had fully returned, she said she had experienced no pain whatever, and remembered nothing but the first application of the inhaler to her face. This prolonged insensibility to pain is somewhat remarkable, when the severity of the operation and the amount of screaming are taken into consideration. The prolonged artificial respiration required to sustain life, after breathing seemed to be re-established, is also worthy of notice.

In concluding this brief history of unusual cases, differing in one respect or another from those which we ordinarily meet with, I will close with a glance at my general methods of treatment.



The large majority of my patients have been of an age from three or four to ten or twelve years. In these cases I invariably, whether in public or private practice, secure the services of a qualified physician to administer an anæsthetic. The one chosen has always been chloroform; and although I have operated upon a large number of children, I have never seen any injurious effect from its administration, except in the two cases already referred to; and it will be noted that in neither of these was the result fatal. In this class of cases I always operate digitally, using the nail of the fore-finger of the right or left hand, whichever at the time is most convenient to use.

The soft, pulpy lymphoid tissue can easily be stripped off at a single operation; and the educated digit can apply itself more thoroughly and efficiently to the lateral regions, between the Eustachian tubes and the promontory of the spine, than it would be possible to do at one sitting with the curette. The objection sometimes made to this method of operation, that particles of the adenoid growth are likely to drop into the larynx, is, I believe, a groundless one. The recumbent posture with the head thrown backwards, and the quick reversal to the side position to facilitate the discharge of the hæmorrhage through the nasal cavities into the bowl, neutralize this tendency; and I never saw a single instance in which there was the slightest reason to think that it had occurred.

As far as recurrence after digital operation is concerned, I have only seen one case, and that was partial, the hypertrophy appearing again over the upper portion of the posterior choanæ.

In older youths and adults, I have first applied a 15 per cent. solution of cocaine on a pledget of cotton freely behind the palate to the tonsillar tissue; and then removed the hypertrophied tissue by one or other of Gottstein's improved curettes. It has usually required two or three sittings to assure a satisfactory result. My use of post-nasal forceps has never been a success, although I have tried them variously modified in a number of instances.

These operations are always more or less painful, the cocaine never producing complete anæsthesia, although it usually materially modifies the sensibility of the part.

In conclusion, let me say that the history and treatment of adenoid disease is becoming such a trite subject that, if it had not been for the unusual nature of the cases I have been able to report, I would not have taken the liberty of presenting them to you.

## MISSED ABORTION.\*

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MISSED abortion, missed miscarriage, and missed labor, are terms not not very frequently used in many of our text-books on obstetrics and gynæcology. Missed labor is exceedingly rare ; on that account perhaps more frequently mentioned than either missed abortion or missed miscarriage.

Throughout the whole range of medical literature there is but scant allusion to the subject. It lies in the borderland between obstetrics and gynæcology. It belongs to both ; and belongs to neither. Perhaps the fullest explanation was given by the late Dr. Matthews Duncan, who gave it the name (not faultless) of missed abortion.

Not only on account of the medico-legal as well as the moral aspects of the subject do we find it of great importance.

Many cases, no doubt, are perplexing and difficult to solve beyond all question of doubt. Whereas in cystic degeneration of the chorion we find the enlargement of the uterus would correspond much beyond, in missed abortion we find it much within, the accredited period of utero-gestation.

Indeed, in missed abortion the patient may have gone the whole period of utero-gestation, and the uterus be no larger than at the third month.

Missed abortion or missed miscarriage may be defined as a neglect of the uterus to empty itself after the ovum has perished.

If the fœtus die any time between impregnation and the end of the third month, and is retained, the patient is said to be in a state of missed abortion, between the third and end of the seventh month a state of miscarriage, and after the seventh month a state of missed labor. Just how long the blighted ovum may be retained in the uterus is as yet an unanswerable question.

Some have put the limit at nine months, a mere *obiter dictum*.

\*Read at the Ontario Medical Association, Windsor.

I do not believe there is any fixed limit, like gestation ; the determining causes of which are also unknown.

How the menstrual cycle of twenty-eight days is multiplied by ten to complete the full period of utero-gestation, and why the rhythmical contractions of the uterus take place at the end of the tenfold cycle in order to accomplish the emptying of the uterus, are questions the solution of which may yet be found in the further study of the functions of the cord.

The symptoms of missed abortion are vague and uncertain in the majority of cases. Generally, there have been symptoms of pregnancy which have lessened or entirely disappeared.

Irregular losses of blood with more or less pain and uterine contractions have been noticed ; and, in looking back, one infers that the foetus died at or about the time of the said symptoms.

During this time and following, there is a period of deranged health.

Any gradual enlargement of the abdomen after such symptoms would be opposed to such inference, and gradual diminution of tumor, as revealed by bimanual examination, would be in favor of such inference.

A state of missed miscarriage presents less difficulty to the observing physician than missed abortion.

Here one has the evident signs of pregnancy, previously observed, and the opinion of the patient herself (if she be married) that she is pregnant. These signs she gradually loses, and there appears the objective and subjective signs of gradual diminution of the size of the abdomen. This is very important.

If this evidence is clear and conclusive, and determined by the physician himself rather than relying on the opinion of the patient herself, it is a very important fact towards a correct diagnosis. Taken with the previous amenorrhœa and with the usual history of pregnancy, with the usual irregular hæmorrhages from the uterus and more or less pains at times, there can be little doubt that the patient is in a state of missed miscarriage.

The patient is not in a state of pregnancy, as one finds the usual symptoms have ceased. The differential point must be considered in connection with placental polypus where simply a fragment of placenta is left behind after artificial or natural delivery, and which in process of time develops a pedicle.

This ought to be easily distinguished from missed abortion, as it would have a history of bleeding from a particular confinement, but even here difficulties present themselves. For we have cases of placenta prævia which have those irregular hæmorrhages which often occur in missed abortion ; and one may on his first examination be in doubt. Time, however,



clears up the doubt—in the one the movement is forward; in the other, retrograde.

The same may be said of myoma, particularly of the œdematous variety, the feel of which resembles the pregnant uterus.

A little time makes the case clear and unmistakable.

In reference to ectopic pregnancy, the symptoms of pregnancy with occasional hæmorrhages would lead to examination and the detection of a swelling entirely to the side of the uterus.

Then pregnancy itself has been mistaken for missed abortion.

In September, 1894, I saw a patient in quite a worried condition on account of the uncertainty of pregnancy or of tumor. I urged her to cease worrying, assuring her that the case was one of simple pregnancy, and requested her to see me again at the end of October. I saw no more of her, and heard that she had had the sound passed several times without any symptoms of labor following, and the case, if ever a case of pregnancy, was now in a state of missed miscarriage. Some time in December of the same year the uterus was dilated, and delivered of a seven months' child, which, I believe, lived twenty-four hours. Here undoubtedly the frequent passage of the sound without labor ensuing was interpreted as an evidence of the non-pregnant condition.

"You" do not "see beautifully illustrated in this case the power of what is called uterine catheterism in inducing labor."

It must be remembered, however, that it occasionally happens that there has been no hæmorrhage whatever during the whole period of pregnancy and state of missed abortion until the expulsion of the blighted ovum; and that the patient has not in any way been threatened with miscarriage.

Here the cessation of all the previous signs of pregnancy, more or less impaired condition of health, with gradual diminution of the abdominal enlargement or uterine tumor, ought to be sufficient evidence to excite the suspicion of missed abortion, and to lead to most careful investigation.

I will read you very condensed notes of three selected cases, presenting to you some divergence of symptoms and treatment.

M.L., æt. 26, single, first consulted Dr. Moore, July 1, 1895. She then complained of exhaustion, pain at the stomach, loss of weight, etc. She had not been well for three months, and previous to that had been quite irregular. There was no history of irregular hæmorrhage. The doctor requested examination, but the patient objected, and he did not see her again until August 31. She then suffered from more or less vomiting, constipation, and increased emaciation. The vomiting was so persistent that she had to be nourished by enemas regularly given. The

first week in September typhoid phenomena manifested themselves, the tongue gradually becoming dry and cracked, and the pulse becoming more and more frequent ; but during all this time there was no elevation of temperature.

On October 1 I saw her in consultation with her medical attendant, Dr. Moore, of London, and Dr. Graham, of Dorchester Station. She was very much emaciated, eyes sunken, cheek bone prominent, upper lip retracted, tongue dry and fissured, and, as Dr. Moore said, had there been an accompanying temperature one might easily have taken the case for one of typhoid fever ; the pulse ranging from 135 to 140. I examined all the physiological systems without obtaining any light on the case, until I came to the reproductive, and here the amenorrhœa could easily be accounted for on account of the long-continued illness.

There had been no menstruation or loss of blood since the last of March or beginning of April, and some irregularity previous to this. Examination per vaginam revealed slight odorless leucorrhœa, an absent hymen, relaxed vagina, a fairly normal cervix and os, and a uterus quite as large as a cricket ball.

There was no hæmorrhage from examination, and I suggested exploration of the uterus under an anæsthetic, deeming it not wise to pass the sound until the patient was prepared for the exploration. Patient was very weak, and was stimulated and fed by the bowel until the afternoon of the 4th, when chloroform was administered and the uterus emptied of its contents.

The dull curette would slide over the smooth fibrous covering of the blighted ovum. Without the sharp curette it would have been impossible to empty the uterus. The placenta which was scooped out was pale, condensed, firm, but more or less brittle. I could not say that it was leathery, as has been mentioned by some authorities.

CASE 2. (Condensed from notes kindly furnished by Dr. English.) Mrs. W., æt. 26, married, mother of two children. First seen by Dr. English, November 9, 1895. She miscarried in December, 1894, and was regular from that time until September 15, 1895. She believed herself to be pregnant two months. There was free hæmorrhage from the uterus, with the bearing-down pains ; but the cervical canal was not dilated. The doctor gave her liquor sedans and opium with good effect, the pains and hæmorrhage ceasing entirely in a few days. The patient was not seen again until February 12, 1896, when she again complained of hæmorrhage more or less since January 30, but had no pains. Previous to this date she said she was bloated, and thought she felt life. The breasts were enlarged, and contained colostrum, but that now these symptoms had disappeared.

The same treatment as before was tried, without effect. Full doses of ergot were then given at short intervals, hoping that the uterus would empty itself and terminate the hæmorrhage, but it did not.

On March 4 I saw the patient with Dr. English, and believed her to be in a state of missed abortion. I advised emptying the uterus, which we did under anæsthesia on the 6th. The placenta was firmly adherent, and removed with difficulty, with a sharp curette. No foetus was discovered. The uterine cavity and vagina were packed with sterilized gauze and the recovery was uneventful. The placenta was not large enough for a four months' pregnancy, and I believed the patient was in a state of missed abortion since November, 1895.

CASE 3. (Condensed from notes kindly furnished by Dr. Ferguson.) Mrs. M., æt. 30, mother of four children; always menstruated regularly until October, 1895, after which she became irregular, both as to time and quantity. At Christmas had a profuse hæmorrhage lasting over night, and not ceasing entirely for three or four days. She had no physician, but said she saw no evidence of abortion, only clots passed from her. Since Christmas there were more or less irregular bloody discharges, and at times of a grumous character.

On May 11 the patient drove some twenty miles, which excited hæmorrhage, and by the time she returned home her clothing was saturated. The hæmorrhage lessened during the night, but started again at 10 a.m. the following day. She then sent for the doctor, who, as the hæmorrhage was then slight and the os dilated, packed the vagina with sterilized gauze, after douching it with antiseptic water.

The next morning the gauze was removed, and with a speculum the blighted ovum could be seen presenting itself at the external os, and was readily removed in its entirety with a pair of dressing forceps.

The mass was cylindrical, rolled up in itself, and about two and a half inches in length by one and a quarter in diameter.

Dr. Ferguson and I unrolled the mass, and found in its centre a small membrane, but the embryo had become absorbed or extruded.

The patient had been miserable ever since October 11, but had no history of chills or fever, and at no time was there any odor to the discharges. Six days after the removal of the blighted ovum the patient declared herself better than she had been for six months.

You will note the differences in the symptoms and signs of these three cases:

In Case 1 there was no hæmorrhage of any kind during the whole period of missed abortion; there was incessant vomiting and alarming prostration, and the patient would undoubtedly have died had not the uterus been emptied.



In Cases 2 and 3 the characteristic symptoms were irregular hæmorrhages and a general feeling of poor health during all the time they were in the state of missed abortion.

In Case 2 it is uncertain what the termination would have been if the uterus had not been emptied.

In Case 3 the uterus, unaided, emptied itself, and this put an end to the state of missed abortion.

These are interesting cases, involved in much doubt and perplexity at certain stages of their course.

The first question one ought to ask himself in cases of this kind is, Have I to deal with a pregnant uterus, or is the embryo dead and the patient in a state of missed abortion?

When we have decided this point the treatment is clear.

There is not so much likelihood now of observing how long a patient may remain in a state of missed abortion, as any prolonged doubt in reference to diagnosis leads to an examination and exploration of the uterus under an anæsthetic.

In any case, I think it unwise to put a limit to its duration; it might be derogatory to the character and honor of an innocent individual, and productive of great injustice to her.

In all cases of missed abortion the date of conception is frequently very uncertain; but how much more uncertain is the date when the pregnancy passes into a state of missed abortion!

## Selected Articles.

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### ASEXULATION IN THE PREVENTION OF CRIME.

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**A**MONG all of the advances in sociologic science which may fairly be attributed to modern scientific medicine, nothing is more prominent than the philosophical treatment of the crime question. The attempt to reduce criminology to a rational and materialistic basis has constituted a great step in advance—one which marks a distinct epoch in scientific sociology. The science of criminology is comparatively new, and its study, in this country particularly, has only recently become popular. But it is my impression that just at the present moment the study of criminology needs to be saved from some of its over-enthusiastic friends and from the misdirected zeal of certain *dilettante* scientists and alleged criminal anthropologists. The second exception which I would take to the trend of scientific thought upon the crime question is that we are too much concerned with the criminal of to-day or the cure of the individual criminal, rather than with the very remote conditions which produce criminality in him, and which will inevitably produce criminality in his descendants, as well as in many individuals who are more or less remotely related to his criminal stock.

In the consideration of the theme which I take the liberty of presenting herewith it will be necessary to indulge in some general considerations of the causes of, and remedies for, crime. In the first place, the proposition is advanced that society is responsible for its own criminals, and in a less degree for its paupers, inebriates, and insane. These are the flotsam and jetsam of the social stream. They are, so to speak, the excreta of society, the retrograde products of social metamorphosis, bearing the same relation to the social body that certain excrementitious products of physiological metamorphosis bear to the animal body. The

sources of these products should be considered, and the aberrations of the social body which produce them corrected, else no measures of repression of resultant evils are likely to be successful. I believe that the conditions producing these excrementitious social products are more amenable to measures of correction, and less inevitable, than what I have presumed to term the analogous conditions in the human body. In the case of the animal body we are aware that certain excrementitious products of physiological change are absolutely necessary. We, however, deny the necessity of allowing these products to remain in the animal body and contaminate it, or be placed in a position to injure other animals after discharge from the body. Is not the same true with regard to the social body? All of the conditions which produce the criminal class are furnished by society. Society's method of cancelling its debt is to punish the criminal after he has arrived at a point at which he menaces the safety, comfort, and commercial interests of society. At no time before is cognizance taken of the results of the poisonous stream of criminality as it sweeps through some particular part of the social system, and an attempt made to correct them. Is this logical? Would it not be far better to turn the stream harmlessly aside, dam it at its source, and antidote its contained poisons, if such a course be possible?

Society begins its self-contamination at the marriage-license window. The foundation-stone of society is the matrimonial relation. Its assumption is the most important step that a human being can take, and upon the conditions which surround it depend some of the most important interests of our social system. Taking this into consideration, and laying aside the interest of the individual, is it not surprising that no effort at the regulation, control, or supervision of the marriage relation is made by society? The license-window is a place where the honest citizen and the criminal, the sane and the insane, the diseased and the healthy, the pauper and the millionaire, the learned and the ignorant, may meet upon common ground—for the important consideration of \$1.50. The criminal, the insane, the epileptic, the syphilitic, the consumptive, and the drunkard are legalized to go on producing their kind, the number of their progeny being limited entirely by the sweet will and physical capacity of the individuals. That the product of the factory of degenerates set in operation by licensing such people is a menace and a burden to society goes without the saying. Has society a right to protect itself against its own vicious off-scourings? I believe it has. I think the time will come when it will be no longer possible for our army of degenerates to procure licenses to marry. I believe that it should be, and one day will be, a crime for a person in the active stages of venereal disease to marry and almost invariably infect innocent persons. There can be no greater crime against the



individual than inoculation with contagious disease—a disease which, perhaps, may outlast several generations and carry affliction to unborn innocence.

I am well aware that sentiment is strongly against the regulation of matrimony; still, sentiment has been no bar to the demand for a license and for the performance of the marriage ceremony by the proper parties afterward. Why should it be a bar to demands for proper qualification on part of the prospective candidates for matrimony? To reduce the question to its ultimate by very material and substantial argument, society should govern matrimony upon business principles. It should protect itself against the danger and expense of breeding an army of paupers, lunatics, criminals, and diseased persons. A life insurance company which should be governed by sentiment would not be very highly regarded from a business standpoint, nor would it be likely to endure. Why should not society handle this question from the standpoint of a huge co-operative insurance association?

The prospective criminal once born, what does society do to prevent his becoming a criminal? Practically nothing. The child of poor but honest parents is allowed to run the streets and contract evil habits or vicious associations. Result, eventually, a criminal or a prostitute in a large proportion of cases. The child with hereditarily criminal propensities is allowed to follow the same course. The diseased degenerate child, whose parents are unable to care for it, is allowed to be exposed to all manner of vicissitudes, and, unless fortunate enough to be cut off by death at an early period, eventually becomes a burden upon the community. What is the remedy at present instituted for this condition of affairs? Society punishes the vicious child after a criminal act has been performed, and sends the diseased one to a hospital to be supported by the public after he has become helpless. Even to-day the child who has committed its first offence is thrown by the authorities into contact with older and more hardened criminals—to have its criminal education completed. We have millions for sectarian universities, millions for foreign missions, but no dollars for the redemption of children of vicious propensities or corrupting opportunities, who are the product of our own vicious social system and should be the wards of the State. But this is expensive. Yes, possibly—for the time being—but within a few generations a diminution in expensive processes of law and of costly penal institutions would make the plan a most economic one in the long run.

A very important factor in the development of the criminal class is the fact that crime seems to be quite profitable; that the gigantic swindler, if he be successful, wins a greater reward than thousands and thousands of honest laborers do collectively during the same period of time. Nor does

he run as great risks to life and limb as the average laborer who is employed in mechanical pursuits. A single mine explosion destroys more lives, injures and cripples more men, than are executed by law or injured in the pursuit of criminal occupations in half a century. The average professional thief gets more comfort and luxury and loses less time from his vocation than the average laborer.

That both moral persuasion and punishment have given but little result in the suppression of crime in times past must be admitted. The proportion of crimes to the population has varied comparatively little in the remote past. Statistics tend to show at the present time that crime is increasing. According to a report made at a recent meeting of the Medico-Legal Society of Chicago, a comparison of the census of 1850 with the census of 1890 shows that the population has increased 170 per cent., while the proportion of criminals has increased 445 per cent.

Preaching, while all well enough in its way, has accomplished even less than punishment. This is especially true with the criminal of the habitual type. I do not claim that this failure is due to the intrinsic fallaciousness of moral methods of persuasion, but the individual with a degenerate brain, who is possessed of absolutely no capacity for moral impressions, is poor material upon which to work. As outlined in the report to the Medico-Legal Society, already alluded to, the habitual criminal is an abnormal man, this abnormality manifesting itself (1) physically, by stigmata in cranial and cerebral development; by criminal physiognomy; by anomalies in the muscular, respiratory, and circulatory systems; by anomalies in motor activity, and in physical sensibility; and (2), psychically, by moral insensibility; by a lack of forethought; by a low grade of intelligence; by vanity; by emotional instability; and by slang (thieves' jargon).

In the consideration of such a vital question as the management of the criminal class, the sentimentalist and his natural ally, the preacher, have joined hands on the question, and to them the world has looked for the reformation for which it has waited in vain. Such practical treatment as the question has received has been chiefly in the direction of devising ways and means to punish the criminal, the building of penal institutions and scaffolds, with the expensive law machinery which leads thereto. And then society has set about devising ways and means to save the elect from its own laws, and has split hairs to such an exceeding degree of fineness that there lies between the thieving corporation, or the absconding millionaire, and the petit larceny fellow, who steals to live, an impassable gulf, one, at least, across which Mammon alone can build a bridge.

Society makes crime; manufactures its own criminals, and winks at the violation of its own laws in high places. It gives the criminal all facilities, the best of inducements for carrying on his avocation, and then threatens



to punish him if he follows the path cut out for him. Above all, society gives the criminal a chance to breed. Crime, as I have said, seems to be more profitable, safe, and comfortable, on the average, than honest labor. What have our preachers, moralists, sentimentalists, and lawmakers accomplished? They have spent the energy and money of the people for nothing. Every penal institution, every expensive process of criminal law, is a monument to the stupidity and wastefulness of society—an expenditure of money and energy to cure a disease which might be largely prevented. We have millions for courts of law and penal institutions, but nothing for the salvation of the children of to-day, who will be the criminals of the future. The first and worst injury that society inflicts upon the criminal is allowing him to be born. The criminal has a good and just cause against us.

The principal remedy for the conditions which tend to manufacture criminals out of young children consists in making them wards of the State, where it shall be shown that their parents are unable or unwilling to care for and educate them properly, or where it shall be shown that the children are vicious, either personally or in association, and, above all, in cases in which the children are of criminal parentage. The management of these children should begin before they commit criminal acts. They should be taken charge of and placed in suitable institutions in which physical as well as intellectual and moral training are followed. The first duty of the State to the degenerate is to make him a healthy individual and give him the physical capacity necessary to enable him to become a useful citizen. If the child is exposed to evil influences and sources of corruption it is the fault of our social system, and one which should be corrected. Good morals should not be expected from diseased children. The moral sense is the product of a healthy brain, and to be healthy the brain must be fed with good blood, a condition which is not possible in the case of the young waifs or neglected children whom we see about our streets. That physical and moral training is beneficial is shown by the records of the Elmira State Reformatory, the results of which have been phenomenal. If so much can be accomplished in such an institution, which is distinctly reformatory and to which children are only sent *after* they become offenders against the law, how much more effective might the same system be if used as a method of prevention in the case of children who have not yet become criminals?

The adult criminal must be separately considered. He is thoroughly developed in his criminal propensities; his organization, such as it is, is complete, and in by far the larger proportion of instances it is impossible to bring about moral reformation in him. Punishment rarely cures; there must be some radical fault in the system, else we would not obtain such such meagre results.



Criminals should be confined to institutions in which proper physical and intellectual training are brought to bear, and in by far the smaller proportion of cases excellent results may be obtained, and when it is believed that a cure of criminal propensities in this relatively smaller number of criminals has been brought about they should be released upon parole, but should still remain the wards of the State for a certain length of time. The duration of sentences should depend mainly upon the question of cure, rather than upon the enormity of the original offence, the exception to this being certain cases of murder and the crime of rape.

Habitual criminals, certain murderers, and rapists should be emasculated. This serves three purposes: (1) The rational punishment of the individual. (2) A powerful moral influence upon other and prospective criminals. (3) The criminal is prevented from perpetuating his kind.

Something like twenty-five years ago Dr. Gideon Lincecum, of Texas, a very able physician and a scientist known all over the world, appeared before the Texas legislature and ably advocated the substitution of castration of criminals for capital punishment. The result was that he was set down as a crank, while a howl of derision and disapprobation arose all over the land. By some this general protest was accepted as an argument—however, like all of the subsequent objections which have been advanced, it was based entirely upon sentiment. Dr. Lincecum's plan is now being advocated in many quarters, not as a substitute for capital punishment alone, but as a method applicable particularly to habitual criminals and rapists. Most of the opposition which is now being exhibited toward the plan is of a sentimental nature. As an illustration of this sentiment, a recent address upon the subject before the Medico-Legal Society of Chicago by a prominent practitioner of law in this city was excellent. Natural as sentiment may be in certain quarters, it is remarkable that a practitioner of law, and a man of standing in his profession, should come before an enlightened medico-legal body and protest against what would inevitably be a great step in sociological progress, and protest upon sentimental grounds. I do not oppose sentiment in general, but sentiment applied to sociological problems is—well, it should be a back number; it certainly is misplaced.

There is one feature of castration which makes it far superior to capital punishment in most cases. Executions do not punish, and are but an evanescent lesson to others. A few castrated murderers, habitual criminals, and rapists scattered throughout the community would be most efficient aids to the criminal memory.

Oliver Wendell Holmes once said: "If you want to reform a man, begin with his grandfather." I offer as an amendment that if you want to reform the criminal, castrate both his grandfather and grandmother. There

is but one substitute : Take the children of to-day, who will be the grandfathers of future generations, and make useful citizens of them. And yet, this failing, asexualization comes into play.

A legal gentleman who spoke in opposition to the proposed method before the Medico-Legal Society of Chicago referred to the viciousness and savagery of the eunuch of the East as an illustration of the danger of castration. Before he makes any deductions from the characteristics of the eunuch, he must compare him with the race from which the eunuch sprang. I presume that castrating the "Ahkoond of Swat" would not have produced a nineteenth century dude. The Oriental eunuch comes from a race of savages. The Amazons of Dahomey are not only savages, but, after being made practically neuters, are trained by savages for savage deeds. Another point : they are castrated young and trained afterward. We are advocating the castration of the adult criminal only. The result will not be the development of savage instincts in the criminal, but, if the experience of countless generations goes for anything, the operation will be likely to tone him down to a marked degree. That this gentleman was absolutely wrong is shown by observations of animals and by thousands of cases of castration in the human subject. The emasculated choir-boys of Rome did not develop blood-thirsty instincts. There is not a practising physician who does not know of dozens of women who have been asexualized for the relief of ovarian disease, yet where is our Amazonian army ?

In conclusion, I desire to say that the advocates of castration demand it, not for all criminals, but for habitual and incurable types, for rapists, and possibly for some murderers. As far as the latter are concerned, their execution is useless. Let them choose between scientific experimentation under anæsthesia and castration. They might expiate their crimes by benefiting scientific medicine. As for capital punishment, away with it !

With regard to sexual crimes, asexualization is of very practical importance to the people of the South, among whom such crimes, particularly on the part of the ignorant Southern negro, is of especial frequency. This was one of the important points brought out by the discussion before the Medico-Legal Society. It is to be understood, however, that the discussion of this subject applies to all sexual criminals of whatever color ; the negro criminal of the South is especially considered because he has been very prominent, not only with reference to the frequency of the crimes which he has committed in this direction, but because of the barbaric treatment which he has received in certain communities as a method of punishment. In response to a request made by my friend, Dr. Hunter McGuire, of Richmond, Va., I made an exhaustive discussion of this subject several years ago in a paper which I then published. I called attention to the futility of lynching and legal executions or imprisonment.



Nowhere in the history of civilization has the futility and barbarity of capital punishment been so well shown as in the punishment of negro rapists in the South. The negroes who perform the acts under consideration are the lowest and most ignorant of the race. They cannot read the newspapers, and it is conceivable that a negro may be hanged or burned at the stake without the negroes of the adjoining county becoming apprised of it. The lower-class negro is subject to attacks of *furor sexualis*, which completely remove any inhibitory impressions which he may have received, even though in his rational moments he knows that swift and terrible vengeance will be meted out to him for the crime of rape. He is usually a religious fanatic who sees the gates of heaven yawning wide to receive him just beyond the scaffold. Those gates are ever hungry for the fruit of the gallows-tree, and your negro fanatic needs no priest or clergyman to bid him *bon voyage*. The Zulu crops out in his not very remote descendant on such occasions. Death is no punishment, and its moral effect is but transitory on those about him. What a rapist needs is an ever-present object lesson, and one which puts the criminal beyond the power of further criminal acts of like nature.

A negro clergyman of education, in commenting on my paper on this subject, said: "The conceded superiority of the white race has much to do with rapes committed on white women by the negro. Art, literature, and religion combine to inflame the passions of the negro for white women. Your fairies, nymphs, goddesses, and angels are all white. Did you ever hear of a black angel? The result is an inflamed passion and an exaggerated curiosity on the part of the negro."

It is my opinion that a few castrated negroes scattered throughout the South would do more good than a multitude of executions. The colored clergyman whom I mentioned suggested that the offender's ears should also be cropped that he might be easily recognized.

I repeat, I do not endorse this method as applicable to the negro rapist alone, but to all criminals of that particular type.

In one of the papers read before the Medico-Legal Society mentioned a distinguished student of the subject became a trifle sentimental over the case of a boy of seventeen years of age, who was committed for killing a policeman—"his first killing." This boy behaved well for several years, and the author of the paper said "he was cured." Cured of what? He never *was* a professional murderer. His was a sporadic case of criminality, and one in which it is impossible to say that the same conditions would not lead to another murder. No matter how well behaved, that boy was probably still dangerous. From an extensive experience, I am free to say that convicts doing time for murder are nearly always well behaved. First, because their crimes were committed, in most cases, under exceptional



conditions of excitement. Second, good behavior affords the only hope of men who are not imprisoned for a definite term, but who may at some time excite the pardoning sentiment in somebody or other. Beware of well-behaved murderers unless there be something more than good behavior as an evidence of cure. Repentance is, of course, no evidence—they are nearly *all* repentant. Understand, I believe that quite a large proportion of murderers might be liberated without danger, but I simply desire to call attention to the difficulty of deciding this point. Your sporadic murderer may be “cured” until such time as certain sources of excitement control him. He is much more difficult of analysis than the habitual criminal.

The author of the paper to which I allude also suggested a board of medical examiners to diagnose the grades of criminality and decide upon appropriate measures of treatment. Now, this is all very well in theory, but will it work? Who shall form the board, how shall they be appointed and upon what absolute data shall they form a diagnosis? I firmly believe that the existence of such a board for six months would, with the meagre data at our command, bury the science of criminal anthropology so deep that it could never be resurrected. Let us rather bear those laws we have than fly to boards we know not of—that would make confusion worse confounded. No, a board of diagnosis of crime would be a dangerous thing. Let us concern ourselves with the conditions that produce the criminal and the best means of cure.

It has seemed to me that we are working at a disadvantage by considering the criminal of to-day as being the most important factor in the crime problem. I repeat—Dr. Oliver Wendell Holmes voiced the central idea when he advised us to reform a man by beginning with his grandfather.

The repression of the criminal class is a question which should be dealt with from a practical standpoint. Sentiment, if exhibited at all, should be in behalf of honest people, not the criminal. The maudlin sentiment which impels fashionable women to present bouquets and frosted cakes to imprisoned criminals may yield to the pressure of the new method of criminal correction. Like all other diseases, the disease of crime is one which is more rationally treated by prevention than by curative methods. Will not the lawmaker join hands with the medical practitioner and endeavor, even at the sacrifice of his own interests, to prevent the diseases which he treats?—*Medical News*.

## TREATMENT OF SYPHILITIC AFFECTIONS OF THE EYE BY MERCURY, POTASSIUM IODIDE, AND PILO- CARPINE COMBINED.\*

BY G. HERBERT BURNHAM, M.D., F.R.C.S. EDIN., M.R.C.S. ENG.,  
Oculist and aurist to the General Hospital, and the Mercer Eye and Ear Infirmary, Toronto.

IN July, 1894, a man consulted me suffering from syphilitic inflammation of both eyes of nine months' duration at least. His physician had been treating him for acquired syphilis since December, 1893. Three months or so prior to this his eyes became affected while under the supervision of another physician. From December, 1893, to July, 1894, he had received antisyphilitic treatment in the form of mercury and the iodide of potash. Atropine was also used locally during the entire winter. This latter remedy had not been used for two weeks prior to consulting me.

The condition of the eyes July, 1894, was as follows :

*Left eye.* Much conjunctival, subconjunctival, and ciliary injection, pain at times, aqueous turbid, many lymph dots on the posterior surface of the cornea, very many posterior synechiæ, some being broad and dense, with the thin deposit of lymph in the pupillary area. V = perception of light only.

*Right eye.* No letters of Snellen type at twenty feet, and only letters of No. XL. of the same type at eight inches ; cornea and aqueous very slightly affected, posterior synechiæ more numerous and broader so as almost to be without a break, *i.e.*, so as to form almost one solid ring of adhesion, and the lymph deposit in the pupillary area denser. He said that his vision was now much worse than three months previously. I continued the administration of mercury and the iodide of potash internally, and atropine locally. At the end of four weeks no improvement had taken place ; in fact, the eyes were slowly getting worse. I now made a change in the treatment as follows : I still continued the internal use of mercury and the iodide of potash, but added pilocarpine, giving it hypodermically. I began with gr.  $\frac{1}{8}$ , and gradually increased it to gr.  $\frac{1}{4}$ . I continued this for three weeks, and then again in three weeks for two weeks more, and

\* Read before the Toronto Medical Society, February 7, 1895.

again in five weeks for two weeks longer. While in use the pilocarpine was given every day, unless its administration gave rise to nausea, headaches, or oppression over the region of the heart, when it was stopped for one or two days, or perhaps the dose reduced only. After one week an improvement could be seen ; at the end of three weeks it was quite evident, and at the termination of fifteen weeks or so the vision was  $\frac{20}{50}$  Snellen.

The posterior synechiæ had been steadily thinning, so that the broad dense bands began to look quite attenuated and web-like.

An interval of rest of eight weeks was given, the mercury and the iodide of potash, however, being continued. I may here mention that he has steadily taken the mercury and the iodide since he came under my care. At the expiration of this time the pilocarpine was again given hypodermically for ten injections. Some of the posterior synechiæ above mentioned have now given way, and such an alteration has shown itself in those that remain that I feel assured that by persistence in treatment all these iritic adhesions will be removed. The deposit of lymph, once markedly present in the pupillary area, seems to be practically gone in the left eye and much lessened in the right. The vision is  $R = \frac{20}{40}$ ,  $L = \frac{20}{30}$ .

I may also mention that since the pilocarpine was given the improvement that then began has been uninterrupted.

The progress of this patient under the combined treatment has been most interesting to me. It has not only shown the apparent inertness of the powerful remedies, mercury and the iodide of potash, but also the immediate and brilliant results of the combined use of mercury and the iodide of potash internally and pilocarpine hypodermically.

We all know that the vigorous and long-continued use of mercury and the iodides has too often had far from a satisfactory effect, not only in syphilitic affections of the eye, but also in syphilitic lesions in other parts of the body, as I think has again been exemplified in this case. The addition of pilocarpine, however, produced such a markedly beneficial effect that I feel justified in claiming for this combined form of treatment a position as a most valuable and important addition to our means of treating syphilitic affections of the eye, and, if of the eye, why not of any other part of the body that may be affected ? From the manner in which this combined form of treatment has acted upon long-standing iritic adhesions, I feel it ought to be exceptionally useful in syphilitic lesions of long duration.

Pilocarpine has been used to a limited extent in syphilis ; but I have never heard of its employment combined with mercury and the iodide of potash, as is now brought before the attention of the profession.

It is not from this case alone that I have drawn my conclusions ; for



others, not so typical, have, however, all contributed to strengthen my belief in its efficacy.

The above-mentioned treatment has ever since been carefully followed out, and is still being continued with such gratifying results that, with permission, I purpose later on publishing them in this journal.—*Archives of Ophthalmology*.

## PROFESSIONAL SECRECY AT HOME AND ABROAD.

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THE result of a recent trial has been to bring into prominence the obligations and legal relations which exist between medical men and their patients with regard to facts learnt in the sick-room involving questions of professional secrecy. On this subject little has been written in this country, and the student has to turn to foreign literature, especially to that of France and of the United States, for a full discussion of the questions involved. We propose to consider briefly some of the obligations of professional secrecy as they obtain in this country, where the matter is not under statutory control, and in certain other countries where it is governed by legal enactments, at the same time giving a few actual cases in illustration of the points raised.

Ever since the practice of medicine has been an organized profession the obligation devolving upon its members to regard as inviolable the secrets confided to them, and those to which they gained access during attendance on their patients, has been a generally-recognized tradition. This tradition was embodied in the well-known Oath of Hippocrates, of which the final paragraph runs as follows: "Whatever in connection with my professional practice, or not in connection with it, I see or hear in the life of men which ought not to be spoken of abroad I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated may it be granted to me to enjoy life and the practice of the art respected by all men in all times! But should I trespass and violate this Oath, may the reverse be my lot!" In a similar manner the Faculty of Medicine of Paris embodied this tradition as to the obligation of professional secrecy very concisely in the following formula, which was promulgated in 1566: "*Ægrorum Arcana, visa, audita, intellecta, eliminat nemo.*" It will now be necessary to consider how far this tradition has been modified in modern times, and to what extent it has received legal sanction.

In Great Britain and in most of the States of the American Union medical men, when they appear in a court of law, can be compelled under oath to divulge such confidences, rendering themselves liable, in case of refusal, to committal to prison for contempt. Medical men in this country are thus, from a legal point of view, in exactly the same position with

respect to secrets confided to them in the practice of their profession as the rest of the world is with respect to ordinary secrets.

On the other hand, in most European countries, and in a few of the States of the American Union, professional secrecy has been made the subject of special enactments. In France the betrayal of professional confidence is of itself a punishable offence.

It will now be useful to compare, with some little detail, the working of these two systems as regards the obligation of professional secrecy involved under the two following heads: (a) The obligations to retain secrets, and the consequences of divulging them; and (b) the obligations to divulge secrets, and the consequences of retaining them.

(a) The obligations to retain secrets, and the consequences of divulging them. In France, according to Professor Brouardel, there are, broadly speaking, three classes of facts which always involve the obligation of secrecy: (1) Facts with regard to the nature of the disease, amongst which are (a) those known as "*maladies secrètes*," or, in other words, venereal diseases; and (b) diseases which are either known or supposed to be hereditary, such as epilepsy, tuberculosis, and mental alienation. (2) Facts with respect to diseases which usually lead to a more or less rapid death. (3) Facts which, though not in their nature secret, become so under special circumstances. For example, the birth of a child is not as a rule to be regarded as a secret—in fact, medical men in France are bound, under penalty to the authorities, to notify any birth occurring in their practice in the absence of the father; but where a girl who has been seduced gives birth to a child, the medical man, in reporting the birth, does not give the name of either the father or the mother; nor does he give the address of the house in which the child was born. If he divulged any of these facts he would render himself liable to a penalty. Again, cholera is not a secret disease; but in the case of a man dying of cholera in a house of ill-fame, the fact of his having done so may not be divulged by his medical attendants. In such a case it is usually assumed that he has been attacked by the disease in the street, and thence carried to a hospital—a form of polite fiction which in Paris is connived at by the Prefecture of Police.

The rigor with which the law in France with respect to professional secrecy is enforced is well illustrated by the case of Dr. Watelet, who, in 1884, in order to defend himself against false accusations with respect to his treatment of M. Bastien Lepage during his last illness, wrote a letter to *Le Matin*. In this letter he described the disease, the operation, and the result of the subsequent examination of a tumor removed. For the publication of this letter he was prosecuted and condemned to a fine of 100 francs, and the conviction was upheld on appeal.



In addition to the penalties under the penal code, medical men in France are also liable to civil actions if their betrayal of professional confidence can be shown to have caused the aggrieved party technical damage.

In this country, if a medical man voluntarily divulges secrets acquired in the course of his profession, he does so at his own risk, for the secret is that of the patient, who has a *prima facie* right in law to require that it shall not, under ordinary circumstances, be divulged to any third party. If he can show that he has suffered any damage in consequence of the publication of the secret, he is entitled to redress. Supposing that action taken by the patient should be for defamation of character or for libel or slander, the medical man, under certain circumstances, might plead "justification"—that is to say, he might set up as a defence to the action "that the words spoken or written were true in substance and in fact." Whether this plea would be successful or not would depend on the view taken of the circumstances by the jury. If, however, it should not be thought desirable to enter the plea of "justification," the question of "privilege" might arise. What circumstances exactly constitute privilege when a medical man communicates a professional secret to a third party has not been authoritatively decided in this country; but, to take an extreme case, there is little question that where a doctor, having ascertained, in the ordinary course of his profession, that his daughter's intended husband was suffering from syphilis, communicated the fact to his daughter, with a view to preventing the marriage, such a communication would be regarded as privileged; whereas in France, under precisely similar circumstances, a medical man would have rendered himself liable to penalties for divulging a professional secret.

In France, in addition to the various classes of cases which have already been referred to, and in which the necessity for professional secrecy is regarded as absolute, there are a large number of other cases in which a certain amount of discretion is permitted to the medical man, as, for example, in questions of life assurance and death certification. With regard to life assurance, there has been much discussion and litigation in France. It has been held that under exceptional circumstances the family doctor may disclose facts with respect to the person to be assured, but not where these have any bearing upon the family history. As a matter of practice, however, at the present time, it is considered a breach of professional secrecy for the family doctor to disclose any facts with regard to the personal or family history of his patient, and the death of the latter does not release him from this obligation. The companies' interests are considered to be sufficiently protected by the report of their own medical examiner. In the case of certification of the cause of death,

again, a certain amount of latitude is allowed to medical men. Still, here there are a large number of diseases where, if the doctor certifies as to the actual cause of death, he is considered as guilty of a breach of professional secrecy. These instances will suffice to show the difference between the practice in France and in England.

(*b*) The obligations to divulge secrets and the consequences of retaining them. With regard to this heading, it may be stated in general terms that in France the physician is bound to divulge professional secrets in those cases where their retention involves plots against the State, or against the lives and welfare of individuals—in cases, for example, of poisoning, abuse of children, and criminal abortion—and with regard to these subjects the obligations of the medical man in England are the same. A failure to divulge would cause him to be considered an accessory, and render him liable to penalties. The medical man in France is also bound under penalties to report under certain circumstances births which have occurred in his practice, and under a recent law he is required to notify the occurrence of cases of infectious diseases. With respect to evidence in a court of law, a medical man in France cannot be compelled to disclose communications or to produce documents which have passed between himself and his patient in professional confidence. Many cases have been decided on this point, of which the following is an example: When, after an insurrection in Paris, Dupuytren was questioned by the Prefect of Police as to some insurgents under treatment in his hospital, he replied, “I have not seen any insurgents in my hospital wards; I have only seen some wounded men.”

In England and most of the States of the American Union communications between client and legal adviser necessary to their relations only are held to be confidential, and protected from disclosure in a court of law; whilst medical men are bound to give evidence as to facts learnt professionally which have any bearing upon the case. The leading case on the subject is that of the Duchess of Kingston, who was tried for bigamy in 1776. On that occasion Cæsar Hawkins, who was called as a witness, refused to answer a question on the ground of professional secrecy. The court, however, held that a surgeon was bound to disclose professional confidences which voluntarily to reveal, said Lord Mansfield, “would be to be guilty of a breach of honor and a great indiscretion, but to give that information which by the law of the land he is bound to do will never be imputed to him as any indiscretion whatever.” In view of this decision, any medical man refusing to testify in a court of law to facts which had come to his knowledge professionally would render himself liable to be committed for contempt of court. Whether he would be committed or not would depend on the judge, whose decision would be

governed by the particular circumstances of the case. The only case according to English law in which a medical man may refuse to disclose secrets between himself and his patient is when such disclosures would incriminate himself.

In New York and certain other of the American States it has been enacted that "a person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity." In the States where this enactment is in force the position of medical men in a court of law is practically the same as in France. The Court of Appeal has decided that all information must be regarded as confidential which has been acquired by the physician in his professional attendance, whether personally observed by him in examining the patient or imparted to him by anyone in order to enable him to act in his professional capacity, and that, too, although it might not, in fact, aid him to prescribe.

From the foregoing remarks, which have touched upon some only of the questions involved in the subject of professional secrecy, it will have been seen what a wide difference exists between the strictness with which the old tradition is still adhered to in France and elsewhere, and the great modification which it has undergone in our own country. While not wishing to abandon our greater freedom, and feeling that the interests of patients may be safely left in the hands of their medical advisers, we consider that the rule with respect to the disclosure of professional secrets in court is, in the words of Best ("Law of Evidence," p. 531), "a rule harsh in itself and of questionable policy."—*The Practitioner* (English).



# Clinical Notes.

## REPORT OF SURGICAL CASES.\*

BY DR. T. K. HOLMES,

CHATHAM.

THE following surgical cases that have come under my care recently present some features of interest that may warrant their being reported :

CASE I. Mr. W. W., æt. 44, who had always led an active life, and whose family and personal history are good, consulted me in the summer of 1894. He had for several years had occasional attacks of severe pain in the stomach and right hypochondriac region, which were so severe that gallstones were suspected as being the cause. None, however, could ever be detected, nor was there ever jaundice. He had been treated by a number of physicians, and had been in the sanitarium at Battle Creek for about two or three months just before coming under my care.

Examination showed that he had lost weight from 180 to 124 pounds during the last four years ; that he had suffered almost constantly from severe dyspeptic symptoms, loss of sleep, progressive emaciation, and a train of nervous symptoms that entirely unfitted him for any kind of business. He complained of great distress in the abdomen, which he described as a drawing or twisting of the bowels, and of a feeling of fear of being left alone. This was so marked a feature of his case that he would not go anywhere alone, or even remain alone in his room, so great was his feeling of fear of impending death. He was so emaciated that examination of the abdomen was easy, and at once revealed an enlarged movable right kidney. It could be displaced beyond the median line, and descended freely with each inspiration. He readily consented to have nephrorrhaphy performed. This I did by making the usual lumbar incision exposing the kidney, incising the capsule for about three inches, and stripping it back so as to secure a fresh surface about an inch and a

\* Read before the Ontario Medical Association, Windsor.

half wide. Three silk sutures were passed through the muscles and fascia, then through the denuded kidney, and through the fascia and muscle again on the opposite side of the incision. These were tied, cut short, and buried by silkworm-gut sutures passed through the skin, and deeply enough to close the wound to the buried sutures. There was no shock, and the wound healed without suppuration. No drainage was used. The symptoms he had suffered from gradually disappeared, and in a few months he regained his usual weight and resumed his business. He has remained well since. I have frequently observed that floating kidney gives rise to very marked dyspeptic symptoms and much nervous depression, but never before saw a patient so completely reduced physically and mentally as this man was. He dwelt constantly on his bad feelings, and no assurance could convince him that he was not in danger of impending death. Opinion is divided as to the propriety of operation for this affection, but I think it will be generally admitted that in any case in which the symptoms are distressing and not relieved by any mechanical appliance nephrorrhaphy should be performed. The operation has been condemned by some surgeons, and it will not always succeed in curing a patient, but it may be that insufficient means to anchor the kidney firmly is the cause of failure and disappointment in some cases. The sutures should be so introduced as to hold the organ firmly and permanently in place, and to do this should be passed through tissue that will not yield when tied, and enough of the kidney should be included in them to afford a surface of at least three inches by one and a half inches for adhesion.

CASE 2. Mrs. McG., æt. 49, married, and has six children. Was never ill till sixteen months ago, when she was thrown from her carriage and bruised her left kidney on a stone. She was unable to rise without help, was ill for several days, and from the time of the injury she has had constant pain in the region of the left kidney and in the left side of the head, neck, and face. About eight months after the fall she noticed a tumor opposite the navel on the left side, and this grew until it extended beyond the median line, and by pressure caused great distress and interfered with nutrition. She lost weight, became pale and weak, and was unfit to do any work. On February 26, 1896, I removed the tumor by abdominal incision through the linea semilunaris. The internal layer of the mesocolon was split in longitudinal direction, and so as to avoid large blood vessels, which were numerous, and the organ was rapidly enucleated, the ureter and renal vessels were tied separately, and the whole mass removed. The colon lay in front of the kidney, and was pushed to the left in the process of enucleation. When the tumor was removed, the layers of the mesocolon shrank together so completely that no suturing seemed necessary. Very little bleeding occurred, and after drying the cavity well the

abdominal wound was closed without drainage, and recovery was satisfactory in every way. There was no shock, the temperature never rose above normal, and her health has steadily improved since the operation. The neuralgic pain in the head, neck, and face did not return after the operation. This patient was sent to me by Dr. Hanks, of Blenheim, who, with Dr. McKeough, was present and assisted at the operation.

CASE 3. Miss Y., æt. 30 years. Had a good family history, and always had good health herself until August, 1894, when she discovered a hard lump in the left inguinal region. It was as large as a hen's egg, as nearly as she could tell, was not tender nor painful at that time, but as it grew became very painful, especially at the menstrual periods, which were regular, and, in other respects, normal. She did not consult anyone in reference to the tumor until October, 1895, when she saw Dr. Langford, of Blenheim, through whose courtesy she came to me. I found a solid tumor filling the pelvis and lower part of the abdominal cavity, and extending about two inches above the umbilicus. It was slightly movable, and was firmly connected with the uterus. She was much reduced in strength by suffering, was pale and sallow, slept little, and walked with difficulty. I advised abdominal hysterectomy, and she entered the General Hospital at Chatham to have the operation performed, but the day before that set for the operation she was sent for by her parents, who shrank from having it done on account of the danger. She subsequently consulted a homœopathic physician in Detroit, who thought he could disperse the tumor by medicinal means. She returned to me in April last, and on the 17th of that month I performed abdominal hysterectomy, adopting the plan advised by Dr. Howard Kelly, of Baltimore, to whom the profession is so deeply indebted for many improvements in the technique of abdominal and pelvic surgery. My chief object in reporting this case is to bear testimony to the greater facility with which such cases can be dealt with by adopting his method. Quoting Dr. Kelly, the steps of the operation are :

- (1) "Opening the abdomen.
- (2) "Ligation of the ovarian vessels near the pelvic brim, either on the right or on the left side, clamping them towards the uterus and cutting between.
- (3) "Ligating the round ligament of the same side near the uterus, cutting it free, and connecting the two incisions in order to open up the top of the broad ligament.
- (4) "Incision through the vesico-uterine peritoneum from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge so as to expose the supravaginal cervix.
- (5) "Pulling the body of the uterus to the opposite side to expose the



uterine artery low down on the side opened up. The vaginal portion of the cervix is located with the thumb and forefinger, and the uterine artery, seen or felt, is tied just where it leaves the uterus. It is not always necessary to tie the veins.

(6) "The cervix is now cut completely across just below the vaginal vault, severing the body of the uterus from the cervical stump, which is left below to close the vaginal vault.

(7) "As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up and rolled out in the opposite direction the other uterine artery comes into view, and is caught with artery forceps about an inch above the cervical stump.

(8) "Rolling the uterine body still further out, the other round ligament is clamped and cut off, and, lastly, the ovarian vessels are clamped at the pelvic brim, and the removal of the whole mass, consisting of the uterus, tubes, and ovaries, is completed.

(9) "Ligatures are now applied in place of the forceps holding the uterine artery, round ligament, and ovarian vessels; if the surgeon prefers these may be tied as they are exposed without using the forceps.

(10) "After the enucleation the operation is now finished by closing the cervical tissue over the cervical canal, and then by drawing the peritoneum of the anterior part of the pelvis (vesical peritoneum and anterior layer of broad ligaments) over the entire wound area, and attaching it to the posterior peritoneum by a continuous catgut suture."

The tumor in the case here reported was developed beneath the pelvic peritoneum, and the whole mass was more accessible on the right side. The operation, therefore, was begun on that side, and the enucleation from below upwards was completed on the left side. In this way the vessels on the right side were more easily found and secured, and the ureter avoided, while on the left side the ureter was pushed out of the way in the process of enucleation and was not seen at all. The closing of the cervical canal by a double row of catgut sutures and the shutting off of the pelvic from the abdominal cavity by sewing together the layers of the broad ligaments and the vesical peritoneum with that behind the uterus makes an ideal finish, and allows the abdominal wound to be closed without drainage.

During the operation, and as soon as the pulse began to weaken, normal salt solution was transfused under each breast, eighty-four ounces being used in this way with excellent effect on the circulation. For eight hours after the patient was removed to bed symptoms of shock were marked, the pulse being part of that time very feeble and about 160 per minute, although she continued to express herself as feeling comfortable. While shock lasted an enema of two ounces of brandy in a pint of salt solution was administered every two hours.

She made a good recovery, and was discharged at the end of a month. The tumor and uterus, which are here presented, weigh four pounds two ounces.

The kidney of the second case, which I also present, weighs forty-nine ounces.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

**J. E. GRAHAM, M.D., M.R.C.P. Lond.,**

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AND

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### CASE OF SEVERE HEAT-STROKE; RECOVERY.

On May 28th, 1894, while in the Indian Ocean, some 300 miles to the westward of Ceylon, an English youth, aged seventeen years, was taken ill. He had been working nearly the whole day directly exposed to the heat of the sun. He never complained of any illness, but at 4.30 p.m. he was noticed to stagger and fall. Some of the men went to his assistance, found him very ill, and at once sent for me. I found him quite conscious, and he complained of violent headache and pains in the back and limbs. His skin was very hot and dry, and his pulse was very rapid, full, and bounding. I placed my thermometer beneath his tongue, but by the time the temperature was taken he was quite comatose. The thermometer registered  $108^{\circ}$ . The method I adopted to reduce the temperature was very rough and simple, but proved very effective. I had the lad stripped as rapidly as possible and laid on the deck. A large piece of ice was placed to his head and sea water was brought in buckets and dashed over him in an almost continuous stream. After about twenty minutes of this treatment the temperature had fallen to  $103^{\circ}$ , and the lad had recovered consciousness and expressed himself as feeling much better. The douching was discontinued, he was placed in his bunk and given hot tea to drink. A powder consisting of five grains of calomel and twenty grains of antipyrin was given. An hour later I found the patient's temperature had again risen to  $105^{\circ}$  and he was very drowsy. He became unconscious again and had a violent convulsion. The cold douching was recommenced in the same manner and continued for some time until the tem-



perature fell to  $100.4^{\circ}$ . He again recovered consciousness and was placed under awnings on the hatch, where he was much cooler than in the fore-castle. He felt much better and was able to partake of a little milk food. The temperature afterwards rose to  $103^{\circ}$ , but no higher. The skin continued hot and dry and a diaphoretic mixture was given. He passed rather a restless night, but on the next morning, the 29th, he felt fairly comfortable. His temperature was  $101^{\circ}$ . He had micturated very frequently during the night and the skin was still very dry. The bowels had not been moved, so two ounces of *mistura sennæ composita* were given. At 9 p.m. the temperature was normal. On the 30th he was much better. The temperature was normal the whole day, and the skin moist. The bowels were well opened. On the 31st he felt quite well. He had no headache, dizziness, or other unpleasant symptom, and was allowed to resume his work. Throughout the remainder of the voyage he remained perfectly well, but was careful not to expose himself to the sun.

I can quite endorse all that Mr. Atkey says about the good chance these cases have on board ship. The surgeon cannot be far away, and ice and water at a suitable temperature are plentiful. Much delay in a case like the above would greatly diminish the prospects of recovery. From the time when the patient was first noticed to be ill to the commencement of the douching ten minutes could not have elapsed, and it was undoubtedly this prompt treatment which saved his life. Dr. Wales, of Canton, was on board at the time, and his experience of these cases was of great assistance to me.—*J. W. Crawshaw, M.B., Ch.B. Vict., in London Lancet.*

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#### THE "PLUMB-LINE SIGN" IN THE DIAGNOSIS OF PLEURAL EFFUSION.

Pitres (*Arch. Cliniques de Bordeaux*, February, 1896), in some lectures on the "Physical Signs of Pleural Effusions," speaks of the deformity arising from effusion, and its effect on cyrtometer tracings or measurements of the two sides of the chest. Owing to the positive pressure exerted by an effusion the affected pleural cavity becomes rounded, and increases in size at the expense of the sound, which is dragged over towards the affected side, the lower ribs of which assume the position of inspiration. As a result the sternum, with its fixed upper end as the centre, becomes rotated, and the ensiform cartilage is displaced, so that, supposing a plumb line were dropped down the middle line, it would be from 2 to 4 cm. away from it (hence the name *signe du cordeau*). Thus cyrtometer tracings or measurements, which are usually taken from the spinous processes behind to the middle line of the sternum, give a false impression of the relative size of the two sides, those on the affected side being too small and those on the sound too large by the amount of deviation of the ensiform carti-

lage from the plumb line, which should therefore be taken instead of the mid-sternal line. This sign, though of theoretical, is not of much practical value in the diagnosis of pleural effusions, since other conditions which cause an increased pressure on one side of the thoracic wall, such as pneumothorax, unilateral emphysema, and tumor of the lung, can produce a similar deformity.—*British Medical Journal*.

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#### THE DIAGNOSTIC IMPORTANCE OF THE EXAMINATION OF THE FASTING STOMACH.

Schüle (*Berliner klin. Wochenschrift*, 1895, No 52) has made some investigations in this subject, concerning which previous researches have been very contradictory. As the term "fasting stomach" cannot be applied to the organ after it has been receiving saliva and pharyngeal secretions, the observations were made on persons at once on waking in the morning. Nine subjects were used, six of whom were trained by previous experiments in the swallowing of the stomach-tube. The result of the experiments was that in thirty-one out of thirty-four trials the stomach contained from 2 to 23 c.cm. of fluid. This was always acid in reaction, and accordingly contained gastric juice. Free hydrochloric acid was present only seven times. Mucus, bile, peptones, and pepsin were also occasionally present. The cause of the presence of the gastric juice must be sought in the saliva or secretions from the pharynx, which even in the small quantities that are swallowed while sleeping excite secretion.

As to the possibility of a continued hypersecretion the author has no personal experience, but gives the following statements bearing on the question:

If there is a hyperacid secretion in the fasting stomach, even in small quantities, it must be looked on as pathological.

If the fasting stomach contains a larger quantity, *i.e.*, 50 to 100 c.cm., this may be due to a pathological process, but is not necessarily so. Alkaline contents indicate a disturbance of the gastric chemistry.—*American Journal of the Medical Sciences*.

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#### VERTIGO.

Mendel (*Berliner klinische Wochenschrift*, No. 26, 1895) mentions the opinions of various authors regarding the nature of vertigo, and the differences of opinion which they entertain. He personally recognizes four degrees of vertigo: (1) The mildest grade, which consists purely in a sensation of a sudden change of the external world as a projection of the perceptions from without, due to the changed conditions of the eye-muscles; (2) there follows the first, the sensation of a disturbance of the body

equilibrium ; (3) in addition to the previous sensations, there ensues veritable body swaying ; (4) finally, there follow other conditions, as occipital headache, tinnitus aurium, even deafness, vomiting, profuse perspiration, slowing of the pulse rate. He discusses the *modus operandi* of the production of this phenomenon, and finally defines vertigo as a symptom complex, which essentially consists in a disturbance of the body equilibrium produced by morbidly changed function of the ocular muscular apparatus. When the ocular muscular apparatus as such is not diseased, the focus of the production of the vertigo is to be sought in a transitory disturbance of the circulation in the region of the nuclei of the ocular muscles. Based upon a physico-anatomical study, he concludes that there is no part of the brain more prone to suffer from slight circulatory disturbances than the region of the nuclei of the oculo-motor and trochlear nerves, and to almost the same extent that of the abducens. It is thus that every disturbance of the cerebral circulation first manifests itself by disordered function of the nuclei of the aforementioned nerves.—*University Medical Magazine.*



# THERAPEUTICS

IN CHARGE OF

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## SALICYLATE OF SODIUM AND URIC ACID.

Bohland (*Centralbl. fur Innere Med.*, January 18, 1896) has investigated the action of sodic salicylate upon the excretion of uric acid. It would appear, according to the researches of some authorities, that this drug produces an increased excretion of uric acid only when there is an increased production of this body. It is therefore necessary to control the production of uric acid in such investigations.

According to Horbaczewski, uric acid is the metabolic product of nuclein, which latter is chiefly derived from the white blood cells. The author's investigations with Hecken were carried out upon two healthy men. They found that sodic salicylate considerably increased the excretion of uric acid, but that the number of leucocytes was also greatly increased. Thus, medium doses of salicylates produce a distinct increase in the white blood cells, and, if Horbaczewski's theory is correct, a considerable leucolysis, and through this latter an augmented uric-acid excretion.

Sodic salicylate has been recommended in gout, but in a number of cases it has been found useless. Some authorities, while admitting that it is of no service of cutting short the attack, yet look upon it as a valuable analgesic. According to the above experimental evidence, it is hardly to be expected that the salicylates should be of use in gout, and the author believes they should not be used even as analgesics either in gout or in the uric-acid diathesis.—*Therapeutic Gazette*.

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## MANAGEMENT OF PREGNANCY WITH NEPHRITIS.

Mynlieff (*Der Frauenarzt*, January 1, 1896) insists that when a woman with chronic nephritis becomes pregnant, the induction of abortion is indi-

cated on account of the immediate peril of the patient (which increases as pregnancy advances), the certain continuance of the morbid process in the kidneys themselves, the great tendency to flooding and abortion, and the small prospect of the development of the foetus up to term, even if it lives so long. Mynlieff dwells on the responsibilities of the physician who is called in when pregnancy is advanced. The induction of premature labor may then be undertaken at a time which seems most favorable for saving the foetus—that is to say, a little delay may be allowed; but the history of previous pregnancies must be duly considered, and if it is found that the foetus tends to die at a certain date in pregnancy that date must be anticipated. In any case the life of the mother must be considered first; hence, up to the last, immediate interference is usually the safest course. The same principle is often best for the foetus when viable, as it may die suddenly earlier than in previous pregnancies.—*British Medical Journal*, February 8, 1896.

#### THE IRRATIONAL EMPLOYMENT OF INTESTINAL ANTISEPTICS.

Huchard called the attention of the Société de Therapeutique (December 11, 1895, *Revue Internat. de Méd. et de Chirurgie*, January 10, 1896) to the frequent irrational employment of intestinal antiseptics.

Sometimes they are used in excess, at other times the proper ones are not employed—as, for instance, in numerous cases of hyperacidity that are treated by antiseptics. Hydrochloric acid is an antiseptic of itself; although its action is not direct, it is efficient. Sometimes the fault lies in not giving a sufficient quantity, forty-five grains or a drachm of benzonaphthol being prescribed where three times that amount is called for.

Nothing can be inferred as to the efficacy of an antiseptic from the presence of its odor in the fæces. Deodorization and disinfection do not go hand in hand.

The author believes that the therapist should, if possible, secure asepsis instead of antiseptis, and to this end he advises the practice of enteroclysis.

The principal indication for this method of treatment is uræmia, which, according to Bouchard's definition, is an intoxication by all the poisons introduced into the body which the kidneys are incapable of eliminating. Another indication is alimentary dyspnoea, which has an origin in ptomaines, produces a state of cardiac hyposystole, and is one step in the production of a true dyspnoeic uræmia.

The method of administering the enteroclysm the author describes as follows: A long oesophageal catheter, communicating with a receptacle by a rubber tube, is the instrument required. This should hold two quarts of a salt solution at a temperature of 104° F. The catheter is introduced

into the rectum, which is then plugged by cotton tampons. With the use of three quarts of water the ileo-cæcal valve can be easily passed, and the water will pass into the small intestine. With six quarts the water will pass into the stomach, and some experimenters have made it flow from the mouth—this, however, has no advantage.

The only inconvenient results of this mode of treatment are, in some cases, severe colics. The results produced have been very gratifying, as the following short résumé will show :

The first case had uræmia, with Cheyne-Stokes breathing, approaching asphyxia for the past month. The enteroclysm put him on his feet in a few days.

The second case had insufficient urination, with asystolia and a serous pleurisy. Theobromine had been unable to produce good results. This condition had arisen during convalescence from typhoid fever complicated by a parotitis and a diarrhoea that was rebellious to all treatment. The enteroclysm was followed by complete relief.

The author also cites a case of chlorosis cured by this method of treatment, and, although not concurring in the opinion that this disease has an intestinal origin, it was evident that the treatment had a markedly rapid and beneficial effect.

The author concludes that this method produces as certain and rapid a diuresis as any other therapeutic method now employed.—*Therapeutic Gazette*.

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#### PHLEBITIS AFTER TYPHOID.

The limb should be elevated and kept at rest. Over the vein apply equal parts of ointments of belladonna, mercury, iodine compound, and vaselin ; apply pressure by means of a flannel bandage. As the swelling subsides, cautious massage may be applied. Rest is imperative, otherwise there is danger of embolism and consequent paralysis.

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#### HAY FEVER.

Discard the use of sprays, and apply to the nostrils, on a cotton pledget, an unguent composed of six parts cocaine muriate, ten of carbolic acid, twenty of menthol, 120 of oil of sweet almonds, 240 of zinc ointment.—*American Medical Journal*.

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#### CANNABIS INDICA.

Mackenzie (*La Sem. Méd.*) speaks of cannabis indica in all forms of cephalalgia. He has found it act favorably even in the severe headaches attending cerebral growth. In chronic uræmia, where opium is contra-indicated, it is especially serviceable. He has found the remedy to be



almost a specific for that continuous form of headache which begins in the morning and lasts all day. In these cases the pain is generally dull and diffuse, but marked by occasional exacerbations. While it is rarely severe enough to interfere with occupation, yet it constitutes a source of constant annoyance to the patient. In such cases the author administers, morning and evening, from one-twelfth to one-half grain of the extract in pills. If these doses are not sufficient, he gives one grain in the evening and one-half grain in the morning. In very obstinate cases the dose is still further increased, the larger dose always being taken in the evening, until relief is afforded or toxic symptoms become manifest. In some instances Mackenzie combines gentian, cinchona, or hydrobromate of caffeine with the cannabis indica. In various neuralgic affections, gastralgia, the pains of tabes, the drug often proves very useful.

In skin diseases associated with intense itching, particularly senile pruritus, where local applications fail to relieve, cannabis indica is often used with great benefit. The author has rarely observed any untoward effects from its use; nevertheless, to avoid toxic manifestations, the drug should be given at first in small doses, the latter being gradually increased.—*St. Louis Medical and Surgical Journal*.

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FOR VAGINITIS.

R—Pulv. alum.

Zinci sulphatis,

Sodii biboratis,

Acidi carbolici.....aa ʒ j.

Aq.....ʒ vj.

M. Sig. A tablespoonful to a quart of lukewarm water as a vaginal injection twice daily.—*Vanderbilt Clinic*.

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CREAMERY EMULSION OF COD-LIVER OIL.

R—Cod-liver oil.....500 parts.

Finely sifted sugar.....190 parts.

Pulv. gum. arabic,

Pulv. gum tragacanth.....aa 5 parts.

Infusion of coffee.....200 parts.

Rum.....100 parts.

Mix the sugar and gums in a mortar, and in the bottle which will contain the emulsion shake together the oil and cold infusion of coffee. Pour a sufficient quantity of this liquid into the mortar to make a paste. While stirring, add to the portion remaining in the bottle the rum, and then gradually incorporate it with the emulsion.—*Therapeutic Gazette*.

# OBSTETRICS

IN CHARGE OF

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## THE SERUM TREATMENT OF PUERPERAL FEVER.

Gaulard (*Presse Médicale Belge*, November 30, 1895) reports two cases of puerperal fever treated by injections of serum.

CASE 1. A rachitic woman, with a contracted pelvis, had a prolonged labor on August 26; face presentation; the perinæum was split to the anus, but was sutured at once. On September 2 the temperature rose to 105°, where it remained for four days. On September 6 Gaulard saw her; her pulse was then 140 and irregular, and diarrhœa was present; there were some sloughs on the vagina, and the perineal wound was suppurating. He curetted the uterus, bringing away nothing of importance, packed it with iodoform gauze, and resutured the perinæum. The next day the temperature had fallen to 102.7°, but on September 8 it rose again, and her general condition was very grave; ten cubic centimetres of Marmorek's anti-streptococcic serum were then injected into the abdominal wall. The temperature was rather lower next day, and an injection of two cubic centimetres was given. From this time the temperature fell steadily, and the patient was soon out of danger. The uterine plugs were renewed every day.

CASE 2. A rachitic woman was brought to the clinic on September 24, in her fourth pregnancy. The first labor was natural; in the two others delivery was effected by forceps. The antero-posterior diameter of pelvis was  $3\frac{1}{2}$  inches. An unsuccessful attempt to apply forceps had been already made, so a basiotripsy was performed, delivery effected, and a douche of 1:4000 perchloride of mercury given. The temperature rose on the 26th, and in the evening of the 27th it reached 104°. The uterus was swabbed out with creosoted glycerin, some putrid fragments coming away,

and then plugged with iodoform gauze. On the 28th cultivations of streptococci were obtained from the discharge, so ten cubic centimetres of anti-streptococci serum were injected (temperature then 104.9°). On September 29 a second injection was given, the temperature still rising. On September 30 a third injection was given; evening temperature 102.9°. October 1 a fourth injection of ten cubic centimetres was given. October 3 the evening temperature was 101.5°, the general condition satisfactory, and recovery hoped for. No pain was felt at any time. After this the temperature fell steadily, and reached normal on October 4. However, later in the evening, two days before, she was seized with bilious vomiting and meteorism, the pulse remaining at about 120, and on the 4th and 5th her condition grew worse; she became semi-comatose, nothing controlling the vomiting, and died on the 6th. The author had never before seen a case of puerperal fever die during defervescence, and he believes the injections of serum were the cause of the vomiting. He fears that too much serum was used, for at the post-mortem there was no sign of peritonitis or of any suppuration. The question of the maximum dose, to exceed which is not safe, has yet to be settled. He is sure this treatment does not do away with the necessity of using the curette, which clears away any débris and cleanses the centre of infection. If the germs have already passed into the circulation, the serum can be employed against them and their toxins.—*British Medical Journal*.

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#### AN OLD IDEA REFUTED.

An idea prevalent among obstetricians that from the frequency of the foetal heart-beats the sex of the child can be foretold is now refuted. This oft-quoted theory seems to have had its origin in about fifty observations made by Frankenhauser, who stated that in male infants *in utero* the average rate was 124 a minute, while in females it was 144. An observation including one thousand cases at full term at the Boston Lying-in Hospital has proven the disparity between the heart's action in male and female fetuses to be about 1½ beats. Knowledge obtained by counting the pulse rate is not reliable as data in determining the sex.—*Medical News*.

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#### THE TREATMENT OF PRURITUS VULVÆ.

While admitting that pruritus vulvæ may be purely a nervous manifestation, Ruge (*Berliner klinische Wochenschrift*, 1896, No. 18, p. 391) states that with the exception of a small number of cases in which some constitutional disorder existed the pruritus, in his experience, was the result of local irritation, of disease of the external genitalia of the vagina and the portio vaginalis. The irritant is assumed to be of chemic or bac-



terial nature. In accordance with these views, success in treatment will depend upon the application of antiseptic principles. Without removal of the hair of the mons veneris, the vulva, vagina, portio vaginalis, and the cervix within reach of the finger are carefully soaped, without the use of a brush, and the vulva and vagina washed with mercuric-chloride solution until rendered thoroughly aseptic. Then the affected parts are rubbed with a vaseline ointment of the same, in strength from three to five per cent. These procedures must be repeated every three or four days. The results obtained with this plan of treatment have been entirely satisfactory. A similar course may be advantageously employed in the treatment of recent gonorrhœa in the female.—*Medical News*.

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TAMPONING THE CERVIX TO CHECK NAUSEA AND VOMITING OF PREGNANCY.

Kehrer, of Heidelberg, reports in the *Centralblatt für Gynekologie*, 1896, No. 15, the case of a young woman, aged twenty-one years, of very hysterical temperament, who had had a number of illnesses before she became pregnant. An exudate was found at one time in the vicinity of the ovary upon the right side. The patient not long after marriage had an abortion at four months. During this brief pregnancy she had been greatly troubled with nausea and vomiting, which were not relieved by narcotics. She soon after became pregnant again, and at once began to suffer severely from nausea. After various remedies had been tried, including the application of solution of nitrate of silver, an effort was made to end the nausea by partially dilating the cervix with the finger. While very brief improvement followed, no permanent cure resulted. The patient's condition became so serious through weakness, loss of flesh, and failing strength that it was determined to empty the uterus. With a view of bringing on labor pains, Kehrer tamponed the os and cervix with strips of sterile gauze soaked in glycerin. The nausea immediately stopped, and a period of several days, in which the patient was free entirely, followed the use of the tampon. After a short time the symptoms reappeared, when the tampon was again employed with a similarly successful result. Kehrer was able by this method to carry the patient along in pregnancy until the thirty-third week, when labor was induced, and she was delivered of a living child. The infant was at first partially asphyxiated, but speedily revived, and became normal in strength and weight.—*American Journal of the Medical Sciences*.

## GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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### SUGGESTIONS ON THE TREATMENT OF URETHRITIS.

Much has been said and written of late upon the virtues and of the flattering results obtained from the use of *argentum nitras* in the treatment of urethritis. So much so, in fact, that I have been led to make extensive experiments with the drug, using it in all strengths. From the results obtained I cannot refrain from making the statement that I consider its use as being unscientific and a relic of barbarism ; and with the exception of granular urethritis, it should never be injected into the human urethra ; especially so, never in a case of specific urethritis. In these cases I have found it far more detrimental to the mucous membrane of the urethra than the gonorrhœa itself.

We find a continuation of the specific discharge exists after a single injection of a solution of nitrate of silver.

Is it not plausible, then, to believe that the "rawness" produced by this escharotic antiseptic affords the gonococcus a far better chance to infect the whole genito-urinary tract than existed before ? Also that the congestion produced by the injection may not favor its growth ?

Upon that theory, supported by many cases in which I have employed it, I take a step farther and make the statement that a case of gonorrhœa may be indefinitely prolonged by such injections.

In patients on whom I have used nitrate of silver, I have always had an obstinate gleet to contend with, and, in some cases, persisten, prostatitis.

Since modern researches have revealed to us the causative gonococcus, we should adapt our treatment to our pathology.

We have in the bichloride of mercury not only the very best antiseptic but one which, when used in the right strength, is scarcely irritating. I use one grain to the pint of distilled water, adding two drachms of sodium chloride, which not only keeps the mercury in solution, but prevents irritation of the mucous membrane.

I often add, as an adjuvant, camphor, making my prescription read :

|        |                          |                          |
|--------|--------------------------|--------------------------|
| R      | Hydrarg. bichloridi..... | gr. i.                   |
|        | Sod. chloridi.....       | ʒ ii.                    |
|        | Aqu. camphoræ.....       |                          |
|        | Aqu. destillat. aa.....  | ʒ viii.                  |
| M. ft. | Sol.                     | Sig. Injection, t. i. d. |

This same solution I use as a spray in the treatment of rhinitis and rhino-pharyngitis ; also as an eye-wash in gonorrhœal ophthalmia. In non-specific urethritis, where there are no cicatricial bands, I find nothing better or more scientific than a solution of cocaine, using dilute extract of witch-hazel as a solvent, sometimes adding antipyrine, for, like cocaine and witch-hazel, it has the properties of contracting the capillaries of the urethral mucous membrane, thus relieving the hyperæmia and preventing an excessive discharge of mucus.—*F. J. Tainter, M.D.*

[The above, taken from *The International Journal of Surgery*, should be carefully read and digested, since it contains advice that it is well to know, and, after knowing, it will be of great advantage to remember *not to follow it*. There are more patients with venereal disease badly treated than with any other one form of disease. This is undoubtedly due to the fact that the average physician reads hurriedly the medical press and accepts as fact all that he reads, and, if not agreeing with it, is at any rate willing to try it on a patient. This brings him discredit, and possibly the patient drifts off to some other physician, who will treat him exactly as his confrère has done, but with some new fad. Now, silver is not a dangerous injection when properly used, but is exceedingly so when improperly. It requires to be used with great caution, however, and care must be exercised to see that the strength of injection is not too great. The nitrate has been most universally used, but argentamine and argonin have each the good qualities of the nitrate without the disagreeable, and are, therefore, preferable. Bichloride of mercury used in greater strength than 1-25,000 is harmful at any time, and the prescription recommended in the above article being 1-16,000 is, in the writer's opinion, far too strong.—*E.E.K.*]

#### URINARY CALCULI.

The following paper by Dr. Randolph Winslow was presented at the Clinical Society of Maryland a short time ago, and being of much importance I have published it here with discussion :

This is a subject which can well claim our attention. Not a case has been exhibited here for some time, though it is an affection which is not very uncommon. In the normal condition of the urine certain salts are



held in solution, but under abnormal conditions these salts become released and deposit concretions of greater or less size. When occurring in small granules these deposits bear the name of gravel, and when of larger size are called stone. The deposition may occur in the tubules of the kidney, or in the pelvis, and passing down along the ureters give rise to what is known as nephritic colic. Sometimes instead of passing down into the bladder they become lodged in the pelvis, and are known as kidney stones, or calculi. The causes of the deposition of the salts are both local and constitutional, and among the latter are rheumatism, gout, and some abnormal conditions of the digestive apparatus. It is probable that most of the calculi which are found in the bladder have come down from the kidney and developed in the bladder. Where we have to deal with local conditions it will be found that they occur in the bladder as the result of foreign body, or obstructive disease. There are quite a variety of calculi, but only three which claim our attention to any great extent—the uric acid, the oxalic acid, or oxalate of lime, and the phosphatic calculi. The latter occur late in life, and are generally the result of obstructive disease, preventing the outflow of the urine from the bladder. I have here a number of calculi of various kinds (exhibiting specimens).

The uric acid calculi is very hard, brown in color, occurs generally in young persons, and is sometimes smooth, but not infrequently is covered with rough prickles, and is very irritating to the bladder. The oxalate of lime calculus, known as the mulberry calculus, is likewise hard and very irritating. The phosphatic calculus is usually white, or grayish white, and soft, and is more liable to be irregular in size and shape than the others.

Calculi are usually single in the bladder, but not infrequently we find a number of them, and I have here a beautiful little nest of them removed from a patient in this city on Thanksgiving day. All stones start with a nucleus of some kind, sometimes a bit of catheter, or straw, or some substance introduced into the bladder. They are found in all parts of the world, but in varying frequency in different places. In this country, for instance, it is rare in New England, but very frequent in Kentucky and eastern North Carolina; why, I do not know. It is supposed in some regions to be caused by drinking hard water, but in some places where they do not use hard water we see it in great frequency. In some parts of India and China it is of enormous frequency, one surgeon in India having operated 739 times in three years, and as high as 50 times in one month. There are various conditions of age, sex, and race which have relation to the production of stone. It occurs in young persons as the uric acid, or oxalate of lime calculus, and in older persons as the phosphatic. Whilst it occurs in women it is infrequent, but one case occurring in a woman out of many seen by my father. This is not difficult to under-

stand when we remember the capacious bladder and wide urethra of the female. Certain races seem predisposed to the disease, the Caucasian most and the negro least so.

The symptoms of vesical calculus are quite distinct. Among the first is that of frequent urination. There is also pain in many cases during the act of urinating, and this pain is different from that of cystitis in that the latter is relieved when the bladder is empty, while the pain of calculus is increased. The different varieties of stone are attended with very different degrees of pain, the rough ones giving most trouble. Amongst the symptoms and effects of calculus is an interruption to the flow of urine. As the bladder collapses the stone acts as a ball-valve, and in the act of urinating the flow may be suddenly stopped. This occurs in a considerable number of cases, and the patient may, by assuming an abnormal position during the act, prevent its occurrence. Blood is not infrequently a symptom of a calculus, and bleeding of the prepuce in small children is sometimes a sign. These symptoms are all suggestive, but do not make a certain diagnosis. Since the introduction of the cystoscope the stone can be seen and felt.

The treatment is divided into medical and surgical. The first amounts to little or nothing, as a rule, for it is doubtful whether a stone can be dissolved in the bladder. Under certain conditions, where the individual is not a fit subject for operation, medical treatment may relieve his symptoms to some extent, but where the patient is in condition for the removal of his concretions an operation should be done. The operative procedures are divided into two classes: (1) Those in which the stone is removed entire through an incision; and (2) where the stone is crushed and removed in a comminuted state. There are a number of methods of lithotomy, bilateral or median, and recently there has been a revival of the operation of suprapubic lithotomy. Some time ago it was attempted to remove stone by crushing, the object being to introduce an instrument into the bladder and break up the stone so that it could be passed out in small particles. This operation is known as litholapaxy. The best method to adopt is a point about which there is much difference of opinion. The recent statistics, which I have here, seem to prove that litholapaxy is the best operation for the great majority of cases. The cases are grouped in three classes according to age, the first including from birth to puberty, the second from puberty to middle life, and the third from middle to old age.

In the first class 602 cases were subjected to perineal lithotomy, and 19 died, percentage of mortality 3.1; 637 to suprapubic operation, 84 died, mortality 13.1. This latter operation was thought to be peculiarly applicable to young children, as the bladder is then an abdominal and not

a pelvic organ. In this class the operation of litholapaxy was performed 294 times, and five died—a percentage of 1.7.

In the second group of 226 perineal lithotomies 22 died, percentage 9.7; 159 suprapubic lithotomies, 18 died, percentage 11.3; and 585 litholapaxies, 22 died, percentage 4.5. In the third group of 69 perineal operations 13 died, percentage 19; 91 suprapubic operations, 17 died, percentage 18; and of 581 operations by litholapaxy 40 died, a percentage of 7.

In all three periods of life, then, the litholapaxy is the most favorable operation. We cannot always have a choice, for there are, of course, certain conditions which will demand one or the other of these methods of treatment. It does not seem to me that elderly persons with obstructive disease of the bladder are proper subjects for litholapaxy, although the modern statistics seem to indicate it. My predilection is for suprapubic lithotomy. In cases where there are a large number of stones they may not all be found and crushed. I had an experience with this operation which was very unpleasant. I removed this stone, by lithotomy, from a man sixty years of age. He did well after the operation, but afterwards his symptoms returned and I detected another stone in the bladder. He did not want to be cut again, and I undertook a litholapaxy. The operation was very bloody. He never secreted any urine afterwards, and soon died. I think if he had been cut by either operation he would not have died in that way. This is, of course, only conjecture. The statistics are in favor of litholapaxy almost to the exclusion of the other operations. We have seen the pendulum, however, swinging back and forth, and I think it will swing back here to a considerable extent. The mortality in cutting operations has been reduced very largely, and I expect that with care it will be brought to a still lower point. If a suprapubic operation is done you can put in the finger and explore the bladder, and by the same operation it is possible to relieve an obstruction by cutting off a portion of the prostate.

#### DISCUSSION.

Dr. J. M. T. Finney : Dr. Winslow has pretty well covered the ground and I shall say but a few words, and that in regard to the treatment of this trouble. Like Dr. Winslow, I am inclined away from the operation of litholapaxy. During my student days and residence in a Boston hospital I had the opportunity of seeing Dr. Bigelow, who has done most for this operation, perform it, and also a number of his pupils, so that while I cannot speak from experience in crushing stones I have seen it done as it should be. I must say it is an interesting operation to watch, but one that struck me as being attended by more dangers than one would imagine from



the statistics or from seeing one of these skilled operators perform it. There are so many things that may happen ; rupture of the bladder I have seen in one case ; injury to the urethra being another ; and in another, a thing that may not happen at present with the new instrument, but which did happen, the blades of the instrument became caught in the bladder, and it was after many efforts, and when the operator was on the point of doing a perineal section, that the blades became disengaged. All of these things are objections to the operation. Statistics are in favor of it, but we all know how fallacious statistics are, and in this instance this operation, as a rule, has been done upon the most favored and picked cases. Children will stand almost anything, and with them the condition for this operation are more favorable, but to compare these with the suprapubic operations, which are done upon the worst class of cases, those of large calculus or where there is prostatic trouble—and we all know where this has existed for some time that the kidneys are prone to disease—is hardly fair. All these things have to be taken into consideration, and they modify the statistics materially. The advantages of the suprapubic are greater than those of any other operation. You can see what you are doing, explore with the finger the entire cavity of the bladder ; it is performed with great ease, and if there is any foreign growth or obstruction to the outflow of the urine by an enlarged prostate you can remove the obstruction. One of the points most urged against the operation is the discomfort to the patient caused by the constant flow of the urine over the surface of the abdominal walls. Numerous efforts have been made to overcome this objection and lately they have met with considerable success. There is an apparatus devised by Dr. Bloodgood, of the Johns Hopkins Hospital, which has worked very well so far, and at my request he will show it to you this evening. The cases in which it has been used have been kept perfectly dry.

As to the question of sepsis it is possible to have an inflammation about the womb, but with the care that should be exercised in every operation, doing as little violence to the tissues as necessary and keeping the surrounding parts clean by packing with gauze, the chances of infection are reduced to a minimum. The packing off of the cavity in every direction about the bladder wound is all that I have to suggest concerning the operation. Sufficient attention has not been paid to that. The gauze should be left there until the wound heals by granulation. We have had no deaths attributed to the suprapubic operation, and I think the statistics are against it because the worst cases are the ones that have been submitted to it.

Dr. J. D. Blake : I endorse to a large extent what Dr. Finney has said, although I am inclined to the perineal operation. The choice of

operation is, in my judgment, a matter of practice among surgeons. They become satisfied with their results, and continue to do that operation which has given them satisfactory results. I have seen Dr. Bigelow operate by litholapaxy in a way that we would call skilful and expert, and as few of us could do, and I am sure that when we have seen him do it we have seen the father of that method, but the length of time that even he consumes, and the difficulties which he comes in contact with and which are more apt to bother us, is apt to deter the most courageous. I have only an experience in one single case, and that was sufficient to deter me from any further effort in that direction. I crushed this stone and washed it out of the bladder, and while I got away the stone after a long time, the operation lasting nearly two hours, the patient was very much shocked and came near dying. He rallied, however, and has had another stone, probably because I left some there, which I removed by the perineal operation. I have performed nineteen perineal operations, the youngest four months, and have never had a death.

Here are two very large stones which I removed from a small man. He was fifty-seven years of age, and had suffered a great deal. You can imagine that in such a case the bladder was thickened, the prostate enlarged, and the condition, so far as assepsis is concerned, was unfavorable. My opinion is that the perineal operation favors thorough drainage. You have it in the right direction and position, and you relieve the kidneys, which are usually involved. I have had one patient complain of what I suppose was an interference with the ejaculatory duct. He says that he does not accomplish the act of ejecting the seminal fluid until some time after the organism has passed off.

I agree with Dr. Finney to a certain extent that the suprapubic operation has advantages which are not possessed by any other. I can, however, explore the bladder with my finger after the perineal operation. When you can have, as Dr. Finney has, all the advantages of skilled nurses in a hospital, etc., one is justified in doing an operation that he would not do in private practice, where he must rely upon unskilled attention. Under these latter circumstances I do not believe the suprapubic operation would give the good results claimed. I believe the statistics are wrong. My opinion is that nearly all the suprapubic operations are done in hospitals, whereas the perineal ones are done promiscuously. We all remember the good results attained by the Smiths, and they did almost exclusively the perineal operation. Prof. Allen P. Smith operated eighty or ninety times without a single fatal case, and most of them were in private practice. As to the removal of a portion of the prostate I should think it a serious thing for the patient, as you have there a source of infection, and right where it cannot be relieved with the hole above as well as

if you had the hole below. Where the third lobe is bulging through there will be no necessity of removing it after the contraction which follows the removal of the source of trouble. I believe that the pendulum is swinging, and that it will swing towards the perineal operation as the one for general use.

Dr. J. C. Bloodgood : I have here a suprapubic drainage apparatus which was devised first for causes in which it was necessary to have permanent drainage from the bladder at a point about the pubes. It consists of a tube to fit in the sinus, and long enough to pass through the abdominal walls and into the bladder for one-half an inch, a bag to collect the urine, and between the bag and tube a saucer-shaped piece to fit close up against the abdomen. It is held in place by a belt passed round the body. The stopper can be drawn from the tube and urination take place as usual. The apparatus may be applied and the wearer go about just as other men do. It may be made of any material, hard rubber, silver, or aluminium.

After establishing its success as a permanent drainage it occurred to me that we might use it immediately after an operation, and thus prevent any leakage of urine and keep the wound absolutely dry. We have used it in this way with success. It seems to me this apparatus will absolutely prevent any infection of the wound after the suprapubic operation, and I agree with Dr. Blake that the hospital is the proper place for this operation. In all of our cases (about thirty in the last three years) we have had but one death, and in that case there was an existing pyelonephritis.

With an apparatus like this one might prefer the suprapubic operation to expression. We meet with some causes which are not relieved by expression. We have had two cases in which suprapubic operation had to be done anyway, because the patient could not wait for the prostate to atrophy. We have had some cases, too, that demonstrated to us that the sooner one overcomes the obstruction the better for the ureters.

Dr. Randolph Winslow : The statistics I reported are the latest known, taken from Dennis' new volume of surgery, and are practically the same as those given in the International Encyclopædia of Surgery just out, and edited by Ashurst. My personal preference is, as I have said, favorable to a cutting operation.

Dr. Blake spoke of exploring the bladder with his finger through the perinæum. His finger must be better than mine. It is hard to get a three-inch finger through four or five inches of perinæum and do much exploring beyond.



## PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

**W. B. THISTLE, M.D., L.R.C.P. Lond.,**

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AND

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### ACUTE OSTEOMYELITIS OF THE SPINE.

A case of this somewhat rare affection is reported by Müller (*Deut. Zeitsch. f. Clin.*). The patient, a girl of 12 years, had been struck on the spine with the hand about six months before being seen by the author. There was local pain at times, but the child went to school until the appearance of alarming symptoms on December 10, when she had headache, chills, and pain in the back, with elevation of temperature, varying between 88° and 39° C. Three days later paresis of legs. January 14, 1892, retention of urine. In twelve hours motor and sensory paralysis became complete to nipple line, left side being a little higher than right. No diminution of knee-jerk; no clonus. No deformity of the spine, but slight œdema of the upper dorsal and lower cervical regions. Lungs negative. Urine turbid, containing some albumin. A diagnosis of Landry's paralysis was made. Incontinence of urine and fæces became complete. January 5, swelling increased; on left side of three upper dorsal spines there was an abscess as large as a goose-egg, with redness of the skin. January 6, evacuated brownish-gray pus containing many fat globules, brownish lumps, and blood clots. The deep spinal muscles were degenerated into punk-like masses. There was total necrosis of left half of arch of second dorsal, and the greater part of the spinous process; the inner surface of right half of arch and the left transverse process are also affected, and all these parts were removed. Pus of the same character escaped from the canal. The dura pulsated normally, but appeared thickened and covered with rough, brownish masses. No signs of external compression. No cheesy masses. Iodoform gauze tamponade. Immediately after the operation the pus was examined. There were no tubercle bacilli, but

many colonies of cocci. Much fatty detritus. The granulations, fat tissue, and bones were also examined, and no tubercle bacilli were found.

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#### PROLAPSE OF URETHRA IN FEMALE CHILDREN.

Attention is drawn to this accident by Broca (*Annales de Gyne. et d'Obstet.*), who reports the following :

A girl, aged six years, had alarmed her mother through the appearance of blood at the vulva for three days. It was naturally taken for menstruation. The child had been kept in bed for two weeks on account of severe bronchitis, with violent coughing. On the day that she got up for the first time the bleeding began. Broca examined the parts, and noted a little red protuberance at the meatus, caused by prolapse of the urethral mucous membrane. He directed that the everted mucosa should be touched with a 2 per cent. solution of nitrate of silver. The bleeding ceased permanently after the first application. At the end of three days the cure was complete. Broca lays stress on this case, as it shows the extreme importance of early recognition and early treatment of this affection. In another case the mother suspected rape. The court ordered a medical examination, and the truth was at once made evident. Thus the meatus must be carefully explored in all cases where blood is found near a child's genitals.

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#### PSEUDO-MENINGITIS AFTER INFLUENZA.

The case of a boy, aged 15, who had a severe attack of influenza in the spring of 1895, and again in November of the same year, is reported by Tecce (*Rif. Méd.*, March 20, 1896).

The second attack set in suddenly whilst the boy was in the best of health. The temperature fell in two days, and the boy returned to work, but he complained of headache. On the fourth day he fell down, lost consciousness, and was convulsed. The headache continued and was intense, and the patient became comatose. There was no delirium. Convulsions, with contraction of the upper limbs, rigidity of the lower limbs, and slight contraction of the neck muscles, were present during the illness. The pupils, urination, and defæcation were normal throughout. The abdomen was depressed, and there was hyperæsthesia of the vertebral column, and especially in the calves of the legs. The temperature was never very high. The pulse was rather slow. After about twenty days of treatment by cold to the head and calomel internally the boy completely recovered, and has remained well since. There was no manifestation of tubercle in the child, and, after discussing the various possibilities, the author decides in favor of the diagnosis made.

PARALYSIS OF THE SIXTH AND SEVENTH NERVES OCCURRING WITH  
WHOOPING COUGH.

In the *British Medical Journal* (June 13, 1896), Craig, of Londonderry, reports the case of a little girl, aged three years, suffering from whooping-cough of ordinary severity, complicated by complete paralysis of the sixth and partial paralysis of the seventh nerves.

Patient was first seen two months after the commencement of the whooping-cough, and five weeks after paralysis was first noticed.

On one occasion during a paroxysm of coughing blood had been forced from the left nostril.

Facial paralysis was quite marked. The left angle of the mouth was depressed. There was inability to close firmly the left side of the mouth. Saliva was not retained, but dribbled from the corner of the mouth.

Internal strabismus very marked in the left eye, showing complete paralysis of the sixth nerve.

Apart from the squint and the incomplete facial paralysis, there was no loss of power. Arm and leg on same side were quite normal. The remaining ocular muscles were not affected. Pupils were equal.

The case was seen first on Nov. 11, 1895, and on June 1, 1896, the child was in perfect health, but the paralysis was unimproved.

The author places the lesion below the nuclei of the sixth and seventh nerves, not affecting fully the fibres for the orbicularis palpebrarum and frontales, and in the case of the sixth situated so as not to affect the fibres which subserve the inward movements of the sound eye. There was no affection of the auditory and no sign of injury of the facial in the Fallopiian canal.



## Editorials.

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### SKIAGRAPHY.

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THE practical value of the "X" ray is daily making itself felt. A new and somewhat unique feature of the "X" ray and its penetrating power through glass was pointed out by Mr. James Milne, superintendent of the Incandescent Electric Light Co., of Toronto, at the meeting of the Canadian Electrical Association, recently held in Toronto. He showed a photograph of a pen nib and a pin within a glass bottle. It has been stated, and apparently demonstrated, that the "X" ray will not penetrate glass; that the obstruction to the ray offered by glass is about equal to most of the metals. In the picture referred to not only was the pen nib and pin distinctly seen, but the pin was clearly defined through both the bottle and pen. We have repeated this experiment, and there is no question about its genuineness. The glass bottle offers undoubted resistance to the "X" ray, but materials of greater density offer more, and the result is that these objects are clearly skiagraphed through the glass. In the former experiments with glass no other object had been placed beneath the glass, and consequently this observation has been delayed.

We have during the past week located a needle in the hand or finger in four cases; a bullet in the leg; a fracture of the olecranon; an ununited fracture of the ulna; a separation of the internal condyle of the humerus; and a dislocation of the astragalus. The treatment of these cases has been greatly facilitated by the use of skiagraphy. Undoubtedly the wonderful results obtained at very slight inconvenience will be more and more taken advantage of as its usefulness becomes more generally known.

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### THE CANADIAN MEDICAL ASSOCIATION.

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WE have again to announce that the next meeting of the Canadian Medical Association will be held in Montreal, August 26, 27, and 28. The officers of the association and the profession of Montreal are

thoroughly in earnest in their endeavors to make the meeting successful in all respects. Montreal has never had a poor or a small meeting, and does not propose to spoil her record this year. The last meeting in that city, held in September, 1891, under the presidency of Dr. Thos. Roddick, will long be remembered by those in attendance as one of the best the society has known. Dr. W. H. B. Aikins, at that time the treasurer, in reading his report stated that "the meeting was the most successful in the history of the association—the enrolled membership in attendance being one hundred and thirty-five, the largest hitherto known." The physicians of Montreal, on that occasion, entertained in their usual hospitable fashion; and their thoughtful kindness, shown in so many ways, was highly appreciated by the visitors.

The meeting of this year will be held under the presidency of Dr. James Thorburn, of Toronto, who, in conjunction with his brother officers, is making a strong effort to furnish an attractive programme. We have reason to believe that a goodly number from Ontario, including Toronto, will be present. We are told that the Maritime Provinces will be well represented. Many from Manitoba and the western provinces have promised to attend. The physicians of Montreal will, of course, turn out in full force. The question of interprovincial registration will be fully discussed; and we sincerely hope that some advances will be made in the direction of clearing away some of the many difficulties surrounding it. We have not yet received the provisional programme, but we understand the following have promised to present papers: Dr. Osler, of Baltimore; Drs. Graham, J. F. W. Ross, McPhedran, Price-Brown, W. H. B. Aikins, Primrose, and B. E. McKenzie, of Toronto; Drs. G. Wilkins, Adami, Laphorn Smith, Birkett, and J. B. McConnell, of Montreal; Dr. R. Ferguson, of London; and Dr. Stewart, of Halifax. Dr. F. N. G. Starr, of Toronto, the secretary, will be glad to hear in the near future from others who propose to read papers. Arrangements are being made with steamboats and railways for return fares at reduced rates. Full particulars as to the programme and other arrangements will be given to the profession in a short time.

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#### THE DEFENCE ASSOCIATION OF ONTARIO.

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THE Defence Association is fairly well represented in the Ontario Medical Council; and it was expected by many that its members would be contented with the present position of matters without making any fresh appeal to the public or the profession—at least for some time to come. It seems, however, that the Defence members of the council are not at all satisfied with the results of their efforts during the last two ses-

sions of that body. We learn through a letter from Dr. John H. Sangster, published in the *Canadian Medical Review*, that the executive of the Defence Association at one time "thought proper to suspend all further appeals to either the profession or the public until after a vigorous and sustained effort had been made to rectify existing abuses constitutionally through the council itself."

It appears, however, that constitutional methods have grown somewhat tedious and monotonous to some of these gentlemen; and, consequently, we are threatened with a "probable renewal of hostilities," in the near future, with "decided activity," "startling disclosures," "spicy strictures," and fearless criticisms of every thought, word, and action of each and every member of the council. Then will be answered various important questions, such as the following: "What was the origin and the motive, and what will likely prove to be the effect, of the recent changes engineered by the schools in the matriculation requirements of the council?" "What is the nature of the machinery existing in the council, by means of which every proposition looking towards the curtailment of extravagance and every effort to secure reforms in the interests of the profession are inexorably voted down?"

Many will have a sincere feeling of regret that "Defence" members have grown weary of constitutional methods, and have decided to enter into an aggressive and unconstitutional warfare which is apt to degenerate into something very unpleasant, if not disgraceful, to our profession. The representatives of the Defence Association are entitled to due respect and fair consideration while endeavoring to enunciate their views and carry out their aims in what may be called a parliamentary or respectable way; but they have no right to threaten us with open rebellion, personal attacks on brother members, and appeals to the prejudices of the public, which is not now, and never was, too favorably disposed towards our profession. We think we may add that no one of them is justified in assuming the extraordinary position of practically advising members of the profession to refuse to pay their assessment dues.

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#### THE BICYCLE FOR WOMEN.

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**D**URING the last two years especially the bicycle has seized the women of the new and old worlds *all in a heap*. We may smile, if we choose, at the *craze*, but the woman careth not, so long as her wheel is in good running, or *scorching*, order. Many wise men tell us the craze won't last long—and perhaps they are right; but present indications do not point to its early death. From a medical point of view, many varied opinions



have been expressed with reference to the effects of the use of the wheel on the health of women and girls who ride. Dr. Doolittle, of Toronto, an expert rider, who has probably studied the question as carefully as any physician in the world, is enthusiastic in recommending the bicycle to the majority of women, as our readers have already learned from his article published in our May issue.

Some of the opponents of cycling tell us that it is especially bad for young girls, because it is apt to press the ischial tuberosities inward and upward, and thus diminish the transverse diameter at the outlet of the pelvis. Others have depicted evils of many sorts—too many to mention in a short article. Some of the greatest enemies of the bicycle appear to have little or no knowledge of cycling. With regard to diseases peculiar to women, there can scarcely be any doubt that such exercise should not be allowed in cases where acute inflammatory disease is present. When, however, the inflammation has subsided, the wheel may be used with care. It has been found that cycling sometimes assists the absorption of masses of effused lymph which are so often left for some time in the pelvis after the acute symptoms have passed away.

The Buffalo *Medical and Surgical Journal* has published several sensible articles on cycling. From one which appeared in the July issue we extract the following :

"That bicycling produces a sense of well-being, both physical and mental, that it increases the appetite and promotes sleep, cannot be disputed by anyone who has ever ridden. A woman, especially, however, should remember that all the benefits derived from bicycling will be nullified if it is carried to excess. The rides should be judiciously graduated, commencing with a few miles and very gradually increased in length, but never carried to the point of physical exhaustion.

"Hills of any size should not be attempted until they can be ascended with comparative ease. The clothing should be light and comfortable, the underwear preferably of wool or silk. The corset should be discarded, as it prevents the full expansion of the lung and impedes the circulation, and as a good substitute can easily be found in the Ferris or equipoise waist.

"There should be no constriction about the limbs, as that would impede the circulation and lead to the formation of varicose veins. The objections which have heretofore been raised against faulty saddles have been removed to a great extent by the Messinger and Christy saddles, which appear to meet all the indications.

"The saddle should be so adjusted that the extremity is not completely extended as it reaches the lowest point of the pedal, for complete extension favors a tilting forward of the pelvis. The handle-bar should be arranged in such a way that the forearm is slightly flexed.

"If the foregoing points are observed and conscientiously carried out by the rider, bicycling is one of the most wholesome and delightful forms of exercise a woman can take. It is especially to be recommended in neurasthenic patients, in those suffering from derangement of the digestive system, particularly when complicated with constipation, and in cases where the system is below par, the result of a sedentary mode of life."

## Meetings of Medical Societies.

### TORONTO PATHOLOGICAL SOCIETY.

REGULAR meeting held May 30, 1896, the president, Dr. Carveth, in the chair.

Present : Drs. Carveth, W. H. Oldright, H. H. Oldright, McPhedran, Anderson, Reeve, W. O. Stewart, H. J. Hamilton, F. N. S. Starr, W. P. Caven, I. H. Cameron, J. T. Fotheringham.

Dr. H. H. Oldright showed a finger, with a long piece (10 in.) of the flexor profundus tendon attached, and to this there was a small portion of the muscle. The patient was shown; he has good flexion of the stump of the index finger.

Dr. McPhedran showed a heart weighing 19 oz., showing aneurism of the sinus of the valsalva, which had ruptured into the left auricle. A systolic murmur had been heard before death over the front of the chest, and at the angle of the scapula.

Dr. Hamilton showed, for Drs. Graham and J. Caven, heart with only two semilunar valves at the aortic orifice.

#### HEART FROM SEPTIC ENDOCARDITIS.

Dr. Graham's case.

History obscure; Burnside patient. Heart shows but two aortic cusps, and one of these presents a prominent vegetation, with breaking down.

[I did not make the post-mortem; merely saw the heart some days after, and therefore can give nothing satisfactory. The presence of an aortic cusp is rare. A more common deformity is misplacement or agglutination. Absence does not necessarily cause any symptoms.]

Cause of death: Plugging of mid-cerebral; convulsive throes.

He then showed a

#### HEART FROM CHLOROFORM POISONING CASE.

Patient of Dr. James F. W. Ross; female; æt. 28.

Dr. Ross wished, before operating for what he suspected to be pus



tubes, to examine the patient under chloroform. Dr. Lambert gave a few drops; the woman sat up, then fell back into what seemed to be a convulsive seizure, and died almost instantly. The usual means were tried for restoration: Artificial respiration for  $1\frac{1}{2}$  hours. Dr. Ross says the heart stopped instantly. Post-mortem showed slightly congested lungs; soft, flabby heart, brown atrophied; markedly intense injection of serosa of small gut; small quantity of sero-sanguineous fluid in the abdomen; tubes and ovaries tied down by slight adhesions, and the tubes containing a little muco-pus.

The following are Dr. Lambert's notes of the case:

æt. 24, domestic, was laid on the table for examination at the Toronto General Hospital. It was necessary to give her an anæsthetic.  $\text{CHCl}_3$  was chosen, and, after asking the usual questions, I began to administer it. The patient took it very well at first, and I had given about a drachm when I noticed the patient's eyelids twitching in a peculiar manner. She began to struggle, and then became rigid. I continued the anæsthetic for a few moments in order to get the patient relaxed. Her color up to that time was good, but her breathing suddenly became stertorous, and the face became cyanosed. I stopped the  $\text{CHCl}_3$ , and resorted to artificial respiration, but the respirations became slower, and the pulse, which had become rapid, suddenly ceased. A hypodermic of brandy was immediately given, the end of the table raised, and a piece of ice introduced into the rectum. Artificial respiration was kept up, and the faradic current applied to the phrenic and diaphragm. These measures were kept up for nearly two hours.

I have no doubt that life was extinct shortly after the seizure. The respirations continued after the heart had stopped, and the collapse of the heart occurred with great suddenness.

Dr. Hamilton said that upon one occasion he gave chloroform to a patient with no untoward result. Six months later he had occasion to again administer the drug, when two hours afterwards he was summoned and found the patient pulseless and cyanosed.

Dr. W. O. Stewart, Guelph, related the history of and exhibited specimen of a case of

#### TUBERCULAR TESTICLE.

Mr. —, æt. 25, student, of good family history, had always been well until February, 1895, when he had an attack of la grippe of a few days' duration. On his getting around after this illness he suffered from acute lancinating pains in upper part of both sides of his chest. These his physician regarded as muscular in character. No other symptom of disease appeared until August, 1895, when a hæmoptysis of some severity

occurred. After this he remained apparently well, and continued his work on a farm for some months. On December 23 last he noticed "a slight thickening at lower part of right testicle." "It was," he says, "not very large nor very painful," and, he thought, was due to pressure of his pants, which he wore rather tightly drawn up. The swelling remained about the same for several days. On December 28, while playing with a young child on his knee, the testicle received a somewhat severe bruising from the child's knee or foot. Rapid swelling of the testicle, with severe pain, followed, and the patient was obliged to take to his bed on December 30. I saw him next day, and found testicle swollen to four or five times its normal size, painful, and very tender to the touch; temperature,  $101^{\circ}$  F.; pulse, 102 or 104. The epididymis was the site of a dense swelling. The testis also was swollen and tender. The cord appeared thickened and tender. Treatment by rest in bed and other measures was followed in ten or fifteen days by some reduction in size and much relief of pain and tenderness. The epididymis, especially the globus major and minor, became gradually more nodular.

The patient was free from cough and expectoration, and examination of lungs revealed no marked signs of disease. There were no urinary symptoms, and examination per rectum disclosed nothing abnormal. Patient was, however, losing weight rather rapidly.

January 24, 1896. Admitted my suspicions of tuberculosis of the gland to the patient to-day, and in the evening held consultation with Dr. H. Howitt, who concurred in opinion, but advised temporizing further before coming to conclusion.

January 31. Suppuration taking place in upper part of epididymis.

February 3. Examination per rectum to-day revealed some small nodules in right half of prostate gland, and a bacteriologist reported finding tubercle bacilli in urine. Patient, on being informed of the tubercular nature of the disease, preferred its removal to treatment by any other method.

February 4. Removed gland.

February 17. Wound healed. Patient discharged from hospital. He lost during his illness about twenty-five pounds in weight, but in less than two months after his discharge from hospital he reached his usual weight of 165 pounds.

Mr. Cameron asked if there was much thickening of the cord.

Dr. Stewart, in reply, said the cord was greatly thickened, particularly the vas deferens.

Dr. Carveth showed a large heart, and an aneurism of the first part of the aorta. The patient was wheeling a barrow six years ago, when he felt something give in his chest. He was then 31 years of age.

A year ago the aneurism was discovered. The left auricle and ventricle were greatly enlarged. There was general arterio-sclerosis.

Dr. Anderson asked if there was anything to account for the hypertrophy of the left ventricle.

Mr. Cameron said the arterio-sclerosis would probably account for the hypertrophy.

Dr. McPhedran said that in these cases one would often notice an accentuated second sound, but no bruit.

Dr. F. N. S. Starr showed two specimens from the same patient; the one the characteristic cauliflower exostoses of the femur springing from the region of the lower epiphysial cartilage.

Of the other by a growth that had probably commenced as the former, but which now presented the appearance of a chondro-sarcoma. Sections had been made, but showed no embryonic elements, probably owing to a breaking down of the growth.

Dr. Anderson thought it probably a chondro-sarcoma.

Mr. Cameron thought the degeneration was probably due to an inability to keep the growth supplied with blood.

Dr. Greig showed a fibroma of the uterus and a heart presenting atheroma of the coronaries.

Dr. Reeve presented as a gross specimen septothrix of the canaliculus; there had been some inflammatory reaction and pus formation.

He also showed a carcinoma involving the lachrymal glands.

Mr. Cameron asked if the septothrix is of the same variety that occurs in the heart cavity.

Dr. Reeve said he was not sure of its particular species, but said he was having a microscopic examination made.

Mr. Cameron showed a piece of the tibia from a leg that had been crushed by a weight of 8,000 pounds falling upon it.

He also showed the specimens from the following case for Dr. U. Ogden:

M. F., æt. 23 years, single, domestic, came into the hospital on January 27, 1896. Had a child four years ago. Had a miscarriage one year ago (at two months). Several months ago began to complain of pains in the back and sides, and about six weeks ago had a whitish discharge from the vagina, with difficult and scalding micturition.

About the middle of April thickening and pain were found in the left broad ligament, and at the end of April a mass nearly the size of an egg, tender, elastic, and spherical, could be felt at the left side of the uterus and very closely attached to it, but with the sound in the uterus the latter was easily distinguished from it. Some enlargement and dullness in the neighborhood of the right ovary were also made out. After a couple



of weeks the mass on the left side was found reduced to about one-fourth its former size, less spherical and elastic, more diffusing or elongated, more separated from the uterus, but still very tender. Diagnosis, probably enlarged ovaries with septic tubes.

On May 27 ovaries and tubes were removed, Drs. Cameron and Primrose assisting. Left ovary slightly enlarged and adherent to broad ligament and side of uterus by adhesions easily separated. Left tube very much enlarged, coiled around the ovary and adherent to the surface of ligament and ovary, and its own coils adherent to each other by soft adhesions, which when separated exposed a light-colored semi-fluid material like unorganized lymph or pus. The fimbriated end looked very red, soft, spongy, and granular.

The right ovary was about normal in size, but the tube presented much the same appearance and condition as the left.

The election of officers was then proceeded with : Dr. John Caven president ; Dr. H. B. Anderson, vice-president. The council consists of Drs. H. J. Hamilton, J. T. Fotheringham, and F. N. G. Starr.

## Book Reviews.

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IN *The Metaphysical Magazine* for July, Professor Elmer Gates, formerly of the Smithsonian Institute, explains for the first time the results of his extended experimental researches in the domain of psychology. These experiments have been conducted in a thoroughly scientific manner, and the demonstrations are of the very highest importance to every branch of learning. The contents of this number also include "Karma in the Bhagavad Gita," by Charles Johnston, M.R.A.S.; "The Subtile Body," by E. G. Day, M.D.; "The Serpent and its Symbol," by Lieut. C. A. Foster, U.S.N.; "Spirit in Man and Nature," by C. Staniland Wake; "Conception and Realization of Truth," by Frank H. Sprague; "A Prophetess of the New Life," by Lilian Whiting; and other articles on occult, philosophic, and scientific lines. The Metaphysical Publishing Company, 503 Fifth avenue, New York.

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The following book has been received :

- A MANUAL OF ANATOMY. By Irving S. Haynes, Ph.B., M.D., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of the New York University; Visiting Surgeon to the Harlem Hospital; Member of the Society of the Alumni of Bellevue Hospital; of the American Association of Anatomists, etc. Philadelphia: W. B. Saunders & Co., 925 Walnut street. 680 pages. 134 half-tone illustrations and 42 diagrams. Price, \$2.50.

## Medical Items.

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DR. ALLEN BAINES, of Toronto, started for England, July 15.

DRS. I. H. CAMERON and Geo. A. Peters, of Toronto, started for England July 11th.

DR. R. H. SOMERS (Tor., '96), has left his home in Toronto to practice in Seney, Iowa.

DR. P. E. DOOLITTLE, of Toronto, sailed on July 11 for England, to attend the British Medical Association meeting.

DRS. R. B. NEVITT and D. J. Gibb Wishart are spending a portion of the summer in Great Britain and the Continent.

WILLIAM HUNT, M.D., aged seventy-one, died at Philadelphia, April 17. He was for thirty years surgeon to the Pennsylvania Hospital.

DR. GOLDSMITH, who left Campbellford eight years ago, and has resided in Peterborough since then, has sold his practice and will move to Belleville.

GEORGE BRIDGES, M.D., died at Richmond, Va., April 13. He had made a special study of appendicitis, and that disease was the cause of his death.

DR. GEORGE M. FERRIS (Tor., '94), who acted for about a year and a half as surgeon on one of the C.P.R. steamships, has commenced practice in Cobourg.

DR. JOSHUA HUNTER HAMILTON, Hillsburg, has been appointed associate coroner for the county of Wellington, in the room of Dr. Angus McKinnon, deceased.

DR. CHARLES MARTIN, of St. Joseph, Mo., who graduated at the University of Pennsylvania in 1832, and served during the American war as surgeon, died March 21, aged eighty-four years.

DR. J. ALGERNON TEMPLE, after his arrival in England, was slightly indisposed for a few days in Chester. We are glad to learn, however, that he has recovered, and is enjoying fully his well-earned holiday, which he is spending in the "old land."

DR. WM. WARREN POTTER, of Buffalo, has been appointed vice-president of the auxiliary committee of the second Pan-American Medical Congress



for Buffalo and vicinity. This congress convenes in the city of Mexico in November of this year.

DRS. L. S. MCMURTRY, of Louisville, and Charles A. L. Reed, of Cincinnati, have been appointed honorary presidents of the International Periodic Congress of Gynæcology and Obstetrics, which holds its meeting at Geneva during the first week in September, 1896.

KINGSTON MEDICAL AND SURGICAL SOCIETY.—A meeting of physicians and surgeons of Kingston was recently held in the General Hospital of that city, and the result was the formation of a medical society. Dr. A. Oliver was elected president, and Dr. Mundell secretary.

DEATH FROM A MURPHY BUTTON.—Osler, in the *Montreal Medical Journal*, reports a case in which death was due to a perforation produced by pressure from a Murphy button in the splenic flexure of the colon, where it had lodged three weeks after a successful surgical gastro-enterostomy for cicatricial pyloric stenosis.

IN A former issue we made statements about Dr. J. T. Duncan, of Toronto, who is now in England, which were to some extent misleading. The doctor is "walking the hospitals" in London, and spending considerable time in Moorefields, studying diseases of the eye. He will not remain long, however, but expects to return to Toronto in the fall, when he will resume practice.

DR. CHARLES MCLACHLAN, who was elected to the North Dakota Legislature on the Republican ticket, in the recent State elections, is a Canadian, and an old member of the *Mail* staff. Besides being a graduate from the *Mail*, he is a graduate also of the University of Toronto, and of the Toronto School of Medicine. He is now practising his profession in New Rockford, North Dakota.—*Toronto Mail and Empire*.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—A meeting of the Executive Committee of the Mississippi Valley Medical Association was held at Atlanta on May 6, and the following gentlemen were appointed to deliver addresses: Dr. H. N. Moyer, Chicago, address on Medicine; Dr. Horace H. Grant, Louisville, address on Surgery. The indications are that the meeting to be held at St. Paul on October 20, 21, 22, and 23 will be the largest and most successful in the history of the association.

A REFRESHING BATH.—The following is the formula of a "rejuvenator" from which Mme. Sarah Bernhardt is said to get unfailing refreshment. It is a liquid in which she is bathed from head to foot—an *eau sédative*, Madame Bernhardt calls it. The prescription is as follows: Two ounces of spirits of ammonia, two ounces of spirits of camphor, one cup and a half of sea-salt, two cups of alcohol. Put all into a quart bottle, and fill with boiling water. Shake before using. The method of application is very simple. The body is bathed with a soft sponge dipped in the undiluted liquid, and dried with the slight friction of a smooth towel. After the bath the stiffness and soreness of fatigue are all gone, the circulation is stimulated, and a gentle languor is induced, followed by a desire to sleep.—*The Practitioner*.

THE DEATH OF DR. LANGERHAUS' SON EXPLAINED.—A full and satisfactory explanation of the sudden and tragic death of the little son of Dr. Langerhaus immediately following an injection of antitoxin serum has been reached through the subsequent investigation. In the first place, the analysis of the serum proved it to be reliable, and no irregularity in the method of its administration could be discovered. It was found, however, that the child had just completed an unusually heavy meal, and as the necropsy showed his larynx and trachea well filled with a material identical with that found in his stomach the accepted inference is that while faint from the shock of the injection he was unable to eject the vomited matter from his throat, and instead drew it into the air passages, with fatal effect. It may be concluded, then, that what appeared to be quite damaging evidence against the serum is really the result of a very simple accident.—*Medical News*.

A GOOD PAVEMENT.—With reference to the agitation as to a new pavement for Fifth avenue, we would call the attention of those in the city government who have charge of the matter to the experiments lately conducted abroad with cork to obtain a new and superior pavement. The pavement used in Vienna consists of granulated cork mixed with mineral asphalt and other cohesive substances, compressed into blocks of suitable size and form. Among the numerous advantages set forth in its behalf are cleanliness, noiselessness, durability, elasticity, freedom from slipperiness, whether wet or dry, and moderate cost. Unlike wood, too, it is non-absorbent, and, consequently, inodorous. It presents the minimum resistance to traction, and, being elastic under passing loads, does away with the vibration caused by heavy teaming. The blocks are embedded in tar, and rest upon a concrete base six inches thick. When taken up for examination they have exhibited, when compared with new ones, a reduced thickness by wear of less than one-eighth inch—this in the case of a section of a London street leading to the Great Eastern Railway station, subjected to continuous heavy traffic, the blocks having been in use nearly two years.—*Medical Record*.

BIOLOGICAL WORK IN JAPAN.—The Japanese are rapidly becoming Europeanized in more ways than one. In politics, in dress, and in the arts of war it is well known that they have adopted western ideas, customs, and institutions. They are also not behindhand in the matter of education. A large number of Japanese have in the past received their education in Europe, and in medical science there are several well-known names associated with valuable pieces of physiological and pathological research. The aim of the Japanese, however, is to provide as good an education in their own country. The Imperial University of Tokio is well staffed, mostly with European professors, but we understand that these are to be replaced by natives at an early date. We are reminded that the necessary qualification of the native Japanese for such posts cannot be far distant by certain publications from the Tokio University which have recently been brought under our notice. The Journal of the College of Science attached to the university, which is published partly in English, partly in French, abounds in biological papers of the highest standard of excellence. We may say the same thing for the Bulletins of the College of Agriculture.



These are published under the editorship of the Professor of Agriculture, who is Dr. Oscar Loew, the well-known chemist and physiologist. Publications such as these are of special interest because they open up what is very largely a new field in science; the Japanese animals and the Japanese food and agricultural products being the subjects of the papers, and these are often very different from our own.

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AN INCIDENT IN THE LIFE OF A PROFESSOR.—When M. Jules Bergeron was pronouncing his eulogy of Prof. Gubler before the Academie de Médecine, he narrated an interesting episode in the life of the late Beaujon physician. Gubler, as a student, was exceedingly poor, and it was only by dint of submission to the greatest privation that he contrived to complete his curriculum. His masters were aware of his poverty, and, in order to help him, one of them recommended him as attendant to a youth of ancient lineage who was the victim of incipient melancholia. Travel having been recommended with a view to the patient's rehabilitation, the pair started for Switzerland, where for a time they enjoyed themselves very much and also became great friends. From Switzerland they crossed the Alps into Italy, and halted at Milan, the journey so far having been as prosperous as possible. One evening, as patient and physician were about to retire for the night, the former was suddenly seized with a paroxysm of furious madness. Levelling a pistol, he discharged it point blank at the unfortunate Gubler, who at once fell fainting to the floor, and then grasping a knife the patient proceeded to hack the insensible physician's head in the most savage manner. Alarmed by the noise, the hotel servants then appeared on the scene, and the lunatic was disarmed. Gubler was immediately carried to the hospital, where, almost by a miracle, he eventually recovered from his wounds. The revolver bullet, which lodged in his thorax, was, however, never extracted, and to the day of his death the cicatrices on his head were plainly visible, although he wore his hair unusually long in order to conceal them.—*Indian Medical Record*.

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THE LEE-METFORD RIFLE.—A recent issue of the Johannesburg *Star* contains some interesting facts relating to the ambulance work performed during the late crisis in the Transvaal, based mainly upon a report by Professor Liebmann, the secretary-general of the St. John Ambulance Association in South Africa. In response to a notice in the *Cape Times* a number of volunteers tendered their services for work in the temporary hospital which was established at Krugersdorp. The internal arrangements for the management of this hospital appear to have left a great deal to be desired, owing chiefly to the fact that there was no responsible head on the medical staff, and that the lady who figured as matron had had no previous experience of nursing or hospital management. Some forty odd patients appear to have been received into the hospital after the Krugersdorp affair, the greater number having belonged to Dr. Jameson's force. As regards the nature of the wounds received by the combatants, all injuries were those by gunshot. Those made by the Lee-Metford were much cleaner and healed much more quickly than those produced by other weapons. Many of the shots, through fleshy parts only, healed almost by first intention. One burgher shot through the lungs left the hospital con-



valescent a few days after admission. The entrance orifice of the bullet was exceedingly small, and, few of the larger vessels having been divided, the hæmorrhage was, in consequence, slight, the wound closing almost immediately on itself. The exit was about the size of the entrance, and in all cases was much smaller than that made by the Martini. Where the Lee-Metford bullets struck bone this was completely shattered. The flesh wounds inflicted by the Martini rifle were of a much more serious nature, namely, larger, jagged, slow healing, with bad apertures of entrance and worse of exit. The majority of Jameson's men had limb wounds. Three men were wounded in the back and one through the bladder and intestine, the bullet entering from the right. Of the remainder some were suffering from fracture, dysentery, abscesses, etc., not attributable to bullets. Among the more severely wounded burghers, there was one man shot through the head who lived ten days afterwards, one shot through the abdomen, one through the lung, one through hand and lung, and one through the back. The general consensus of opinion among those who saw the effects of the fighting in South Africa is that the Lee-Metford rifle or carbine is inferior to the Martini as a "man-slaying" weapon. It does not appear to have in many cases the power which it should possess of putting a man *hors de combat*. Impending events in Upper Egypt may, perhaps, afford more extensive data on which to form an accurate opinion in regard to this important matter; at present, we confess to some want of confidence in this and other small-bore rifles as a means of stopping a rush by fanatical and semi-barbarous adversaries. We sincerely hope that future events may demonstrate our fears to be unwarranted.—*British Medical Journal*.

#### SEWAGE PASTURES.

While there is a general consensus of opinion in favor of irrigation as, at any rate, the final step in the purification of a sewage effluent before turning it again into a natural watercourse, opinion has by no means been so unanimous in regard to the effect of sewage farm produce upon the animals fed upon it. To elucidate this problem, Dr. Meredith Young, Medical Officer of Health for Brighouse, has collected the experience of a considerable number of sanitary officials, and the outcome of his researches is to show that while the consumption of the produce of such farms, as distinct from the sewage itself, may be free from risk, it is essential that every such farm should be very carefully managed, so as to prevent the cattle from obtaining access to the polluted water. It may not be the case that perfectly healthy cattle will drink polluted water, but Dr. Young has assured himself that some cattle certainly do so, and take it in preference to that from a purer source. It also appears pretty clear that, although some samples of sewage may not be definitely injurious, cattle who drink foul water run risks not only of catching certain diseases, but also of being poisoned by the disinfectants which are often now so freely mixed with the contents of sewers.<sup>1</sup> Whether cattle can both catch diseases from drinking sewage and transmit such ailments to man is a wide question to which no definite answer can be given, although by analogy one may affirm the possibility of such a transmission of infection, for clearly there would seem a possi-

bility of the drinking of sewage-polluted water being a means by which the ova of tapeworms might gain access to cattle. Where farms are properly managed, so that the cattle cannot gain access to the raw sewage, there is but slight probability of mischief ensuing. Any possible contamination has, in fact, to pass through a double biological filtration, once when the sewage is being absorbed by the plant, and again when the plant is being absorbed by the alimentary canal of the animal, and in the case of milk possibly through another still again in the process of secretion of the milk. Even under such circumstances some farmers consider that milk has a bad taste when taken from cows fed on sewage produce, that it has a heavy odor, and that its keeping qualities are impaired. Nor does this appear improbable when we consider, for example, how readily one can detect the smell of turnips in milk when cows have been fed on them even for a short time, and how readily milk is rendered poisonous by the cows taking certain poisonous herbs in their food. All these things point to the conclusion that, in some cases, certain chemical substances contained in the food material can pass through the so-called biological filters, and can be detected in the food products derived from the animals whose systems they have entered, and shows the probability of such food products being deteriorated by the drinking of sewage and sewage-polluted water by the cattle. Dr. Young, then, while speaking cautiously about the consumption of sewage produce, thinks that there need be no hesitation in saying that the flesh and milk of animals which have drunk sewage itself in any form should not be consumed by human beings till sufficient time has elapsed for the deleterious effects to pass away. In practice, probably more harm is done by the common crude methods of irrigation practised by the uneducated farmer, who floods his fields with whatever comes to hand, than by even the largest sewage farms which are conducted on proper principles with the definite aim of producing a pure effluent, for on such farms the cattle would never wallow in sewage or drink sewage-polluted water.—*British Medical Journal*.

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#### OBITUARY.

JOHN A. BURGESS, M.D.—We have to record with deep regret the death of Dr. John A. Burgess, of Toronto, which occurred June 30, 1896, in the thirty-fifth year of his age. Dr. Burgess received his medical education in the Toronto School of Medicine, and graduated in Victoria University in 1885. After completing his course he commenced practice in Toronto, and very soon attained marked success. About two years ago his health commenced to fail and he was compelled to give up a portion of his laborious work. For a time he gained strength, but a serious pulmonary hæmorrhage weakened him to such an extent that he decided to try a warmer climate for a few months. At first good reports reached his friends; but a few weeks later a message came to his brother to the effect that his condition was serious. He returned from California to his home in Toronto early in June, and gradually sank till death relieved him from his sufferings.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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### A TUMOR OF THE MEDULLA OBLONGATA.

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By J. E. GRAHAM, M.D., M.R.C.P. LOND.,

Professor of Medicine and Clinical Medicine, University of Toronto; Physician to the  
Toronto General Hospital and St. Michael's Hospital.

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THE following case of angeiosarcoma pressing on the restiform body on the left side of the medulla oblongata, I thought of sufficient interest and rarity to be reported in detail.

I am indebted to Dr. Howitt, of Guelph, for the greater part of the history of the case, as well as for the specimen which I now present to the association.

L. B., æt. 52 years, a cattle dealer, first consulted Dr. Howitt with regard to the illness now under consideration on March 7, 1895, and was referred to me by Dr. Howitt on March 27. Many of the notes of this case were obtained by Dr. McCrea from Dr. Howitt, as well as from friends of the patient.



*Patient's personal history.* Married. Temperate as regards alcohol. Was always active, and spent most of his time in the open air. There is no history of syphilis. He suffered from the diseases of childhood, but was otherwise healthy until eight years ago, when he had typhoid fever, a very severe attack with a high temperature, which for a week seldom fell below  $104^{\circ}$ . After a prolonged illness he recovered, and to all appearances seemed to be as strong as formerly. Three years ago he had an attack of acute articular rheumatism, which caused him to remain in the house for three weeks, and he did not completely recover until after three months. During the attack an indistinct mitral murmur was developed. A year ago—March, 1894—he suffered from la grippe, but had no medical attendant, and continued at his work. His wife states that on returning home one evening during the attack he felt weak, and as he entered the sitting room she noticed that his face became suddenly blanched, and before she reached him he fell backwards, striking against the window-sill the right with the back part of his head, on a line a little below the occipital protuberance. After the blow he felt sick at the stomach, but did not vomit. No other ill-effects were experienced either at the time or afterwards.

Except during the attacks of illness already described he enjoyed excellent health, and was able to endure more than the ordinary amount of physical exertion. He had a remarkable memory, and, although for some years his business amounted to over \$200,000 a year, he never kept a written record, but trusted wholly to his memory, and could at a moment's notice recall the minutiae of any business transaction for years back. After the attack of la grippe in March, 1894, although he looked well, he was easily exhausted, and noticed that towards the end of the following summer he could not stand long without leaning against something for support. About that time his wife observed that he could endure less cold than formerly, and that he wished the house to be kept extremely warm. He was more irritable, and became easily worried about his business. His sleep also became disturbed, but his appetite remained good. There was no change in the sexual power. Early in the autumn he noticed failing eyesight, and tried various kinds of glasses without benefit. He often could not read without covering one eye. Light caused pain, and he wore colored glasses for the first time in his life. The upper lid of the left eye was known to droop early in the winter. He had at the same time double vision, which was of temporary duration. In the early part of the winter he found it difficult to walk on a narrow sidewalk, owing to a tendency to go to the left side. This symptom was more marked some days than others. Giddiness was a prominent symptom about the same time. He also suffered at

times from great thirst. During January and February he would not go into the country without taking someone with him, as he always seemed to fear that there was something seriously wrong with him.

About February 1, 1895, he first spoke to his wife regarding a numb feeling on the left side of his face, which was especially noticeable when he shaved. He shortly afterwards noticed that the tip of his left thumb felt to him as if it had been burned on a hot stove. This was followed by an extension of the numbness to the left side of his neck, left shoulder, and left arm and forearm. He complained of pain in the arm near the elbow. The numbness then extended downwards until the whole of the left side was affected. During February he suffered from occasional attacks of vomiting.

When he first consulted Dr. Howitt, on March 7, he had a ravenous appetite, which continued until a short time before his death. He complained of the numbness on the left side of his body as already described, as well as of a peculiar feeling, as if the parts were enlarged; his fingers felt as large as his forearm, and the other parts in proportion. This feeling was at first relieved by going into a cold room or by exposure. On this account he often dreaded coming home in the evening. His tongue was enlarged, flabby, and coated, and he complained of a disagreeable sensation after taking food.

On March 27 the patient was referred to me, and I made as careful an examination as was possible in the two hours at my disposal. The patient at first seemed healthy and strong, but on closer examination a certain amount of unsteadiness of gait and more or less hesitation of speech were noticed. He described the onset of the disease as given, but stated that the numbness of the face came on quite suddenly. Although he complained of such marked numbness on the left side of the body general tactile sensation was not present to any marked degree. Sensation to pain and temperature was normal. He said the numbness was much increased by walking. He complained very much of the peculiar swollen feeling already described. The skin reflexes were normal, but the knee jerk was slightly increased on both sides. There was a slight difference greater than normal between the power of the left and right arm and forearm. He leaned a little towards the left side in walking, and had a tendency to fall to the same side. He could neither stand nor walk so well with his eyes closed as when they were open. There was a decided want of co-ordination in the left arm, as shown by attempting to touch the end of his nose with the index finger of his left hand when his eyes were closed. The reactions to the galvanic current were normal. The faradic was not used. No evidence whatever of muscular atrophy. The optic discs were normal, as were also the pupil reflexes, movements of the eyes, and fields of

vision. The hearing of the left ear was not so good as that of the right. He complained of headache both in the occipital and frontal regions. His appetite was good and his bowels were regular. Pulse and temperature were normal.

A careful physical examination of the chest and abdomen did not reveal any evidences of disease. The urine was also normal. It will thus be seen that at the time of his visit to me there were few, if any, objective symptoms, and all could have been explained by a supposed functional condition. I concluded, however, that a gross lesion was present for the following reasons :

(1) The previous character of the patient and the absence of any neurotic tendencies either in himself or in any of his near relatives. Moreover, there was no cause for nervous exhaustion in the nature of his work.

(2) The progressive character of the disease. One stage followed another without any sign of temporary improvement.

(3) The history of dizziness, and especially of persistent pain which he gave at the time of his visit to me.

After his return home the patient remained in much the same condition, becoming perhaps a little worse until April 7, when he gave up work altogether and went to bed. The chief symptom then was his inability to raise his head without becoming dizzy, and he appeared afraid to move his head on that account. He was at that time very restless. Vomiting was very troublesome, especially in the morning, and was accompanied by severe pain in the back of the head, in the side of the neck, and on the left side, as well as in the left arm near the elbow. After the vomiting ceased he suffered from wandering pain in the left side, especially in the lower anterior and lateral parts of the left thorax. His knees felt cold to the touch, and he had to have artificial heat applied constantly. During this time iodide of potash was given in constantly increasing doses until he took nearly two drachms at a dose. The drug seemed to have the effect of arresting the vomiting.

April 14. At this date the pain at the attachment of the diaphragm on the left side became intense, and the pulse and temperature rose for the first time. He suffered from difficulty of breathing and more or less loss of voice, so that he could only speak in a whisper. Moist râles were detected posteriorly in the left lung.

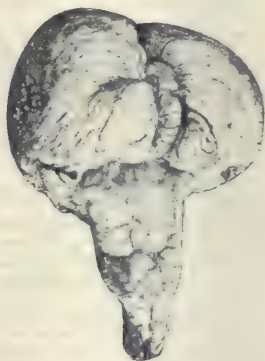
April 15. The râles on the left side became more extensive, and were also found in the right lung. There was dullness on percussion over the left side of the chest. He experienced some difficulty in swallowing, and some of the food would pass into the trachea, causing a choking sensation, and some, as he believed, passed only a short distance into the œsophagus



and was afterwards expelled. After he took to his bed the paralysis of the voluntary muscles of the left side increased ; the tongue, when protruded, pointed very much to the left.

The pulse until the temperature rose was usually about 70, and lacked tension. The patient's mind remained clear until the last. He died on April 16.

In addition to these notes taken by Dr. McCrea, I will give the following quotation from Dr. Howitt's letter sent after the patient's death : "The paresis on the left side never became complete, but it was so marked that he could hardly lift anything with the left hand. For two days before death he could not swallow food, especially liquids, without part of it entering the trachea. The muscles of the throat appeared to be more affected than any others. He had lost his voice and the ability to cough up the



free secretion which was caused by the irritation from food entering the trachea. Two or three days before the end he complained of severe pain in the left side of the chest, when fine râles were at the same time heard. These symptoms were accompanied by an elevation of temperature. The highest temperature was 102°. After this both lungs at back became rapidly consolidated. Cyanosis was a prominent feature near the close. His mind remained clear, and he whispered a good-by to his friends with his last breath. I obtained permission to open the head. Nothing of an abnormal character was noticed in the cerebrum. The cerebellum seemed to be wanting in firmness.

On the restiform body on the left side of the medulla a small vascular (at least to the eye being reddish in color) growth which projected above the surface. To the touch the tumor did not appear to be as firm as the structure in which it was placed.

The medulla oblongata and cerebellum were preserved in spirits and sent to me by Dr. Howitt.

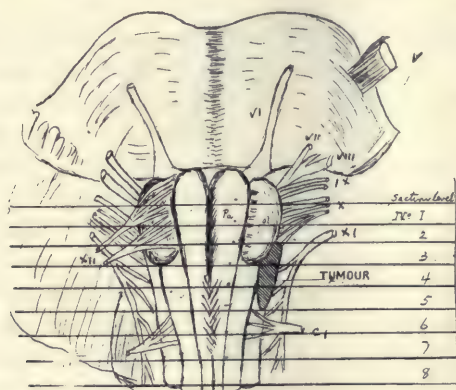
For the accompanying photographs I am indebted to Dr. E. E. King. Sections of the tumor were made by Drs. Starr and Hamilton.

The size and position of the tumor is as follows :

Longitudinal diameter from above downwards, 15 mm. ; transverse diameter in the widest part, 5 mm.

It is situated in the pia mater, pressing upon the restiform body, separated from the fourth ventricle by the posterior pyramid, and from the olivary body by a distinct column of fibres. Its upper extremity is on a line with the junction of the lower and middle thirds of the olivary body, and its lower extremity extends nearly one-fourth of an inch below at a line drawn through the apex of the calamus.

The tumor is circumscribed, and can be easily detached from the subjacent structures. The upper half is less adherent than the lower. When



the tumor is raised up a cup-shaped cavity remains, formed by pressure and wasting of the fibres of the restiform body. The cavity corresponds in depth to more than one-half the transverse diameter, about 4 mm., and the longitudinal and transverse diameters correspond with those of the tumor already given.

In looking up the literature of tumors of the medulla, I was surprised at the small number of recorded cases. In the ordinary text-books on nervous diseases very little mention is made of them. In the statistics of Guy's Hospital, as given by Fagge, thirty-six cases of brain tumor were recorded, of which twenty-two existed in the hemispheres and fourteen at the base. Six of the latter were cysts in the cerebellum, but the medulla is not mentioned. Special reference is not made to them by Gowers, and Byron Bramwell, in his work on intracranial tumors, devotes one page to this particular class.

Sokoloff, in the *Deutsche Archiv. f. Klinische Medicine*, 1887, made a

collection of seven cases of glioma of the medulla, six of which were circumscribed and one diffuse. Included in these cases were four of Bernhardt's,\* one by Broadbent,† one by Jacob,‡ and one by Schmidt.§ In six of these cases the tumor arose from near the floor of the fourth ventricle. Sokoloff arrived at the conclusion that gliomata of the medulla, with the exception of those involving also the pons, were nearly always of central origin, and were not seldom softened in the centre. A case was described by Dr. Osler, in the *Journal of Nervous and Mental Diseases*, in 1888, which in many respects resembled the one now under consideration. The patient, 32 years of age, was admitted to the Pennsylvania Hospital on March 4, 1887. Among the symptoms were headache, odd sensations throughout the body, and convulsions. There was no loss of power of the arms or legs. On getting up he carried his head stiffly, but was able to move it at will. He walked without assistance, but felt a peculiar sensation in the legs and a tendency to sway from side to side. Co-ordination not impaired and sensation everywhere retained. He complained of numbness, tingling and creeping feelings, as well as of a sensation of cold feet. He remarked, "They are warm, but they feel cold." Special senses normal. He complained of a severe occipital headache which could not be separated from a painful feeling and a stiffness of the neck. Reflexes were normal, except that the patellar tendon reflex was somewhat exaggerated. The convulsions were bilateral. He died suddenly. A tumor, an angiomasarcoma the size of a large pea, was found below the calamus, projecting more towards the left than towards the right side. The sudden death was caused by central hæmorrhage.

Another case was reported by Dr. Glyn|| of a tumor of the medulla in the neighborhood of the calamus scriptorius.

A tailor, æt. 31, presenting the following symptoms : Hearing, smell, and taste normal, motor and sensory paralysis of all the extremities, paralysis of the diaphragm, partial paralysis of the tongue and lips, slightly impaired sensibility of the face, dyspnœa, cough and strangulation produced by irritation of the nerves and muscles of the pharynx and larynx.

*Post-mortem.* Excess of fluid at base and in the lateral ventricles, a small glioma in the middle line of the medulla on a level with the calamus scriptorius, not larger than a pea, with a soft central portion. It was situated about an eighth of an inch from the posterior surface of the medulla.

In de Jonger's§§ case a tumor the size of a small bean was found on the

\* *British Medical Journal*, 1881.

† *Lyon Médical*, 1883.

‡ *Journal of Mental and Nervous Diseases*.

§ Bertroque *Zur Symptomatologie der Hirngeschwülste*, Berlin, 1881.

|| Glyn, *Liverpool Medical Clinical Journal*, 1887.

§§ *Archiv. f. Psychiatric*, Berlin, 1882.



left side at the lower extremity of the olivary body and posterior to it. The symptoms were persistent glycosuria, dizziness, vomiting, diplopia, and lateral paralysis of the right upper and lower extremities and right side of the face. Increased sensibility of the right side.

It will be noticed that in all these cases the tumor existed in the substance of the medulla. I have only been able to find two cases in which the tumor was external and produced the symptoms by pressure inwards.

In one described by Brissaud in the *Prague Medical*, 1894, the tumor implicated the cerebellum as well, and the symptoms were more those of a cerebellar tumor than one of the medulla.

The second case by Charcot was published in the transactions of the Société de Biologie in 1851. A tumor the size of a small pigeon's egg, compressing the right side of the medulla and the nerves which spring from it. The patient complained of severe occipital and temporal headaches, pain and tenderness of the neck. Noises and bright light increased the headache. A tendency to vomit on movement of the body necessitated the recumbent position. There was contraction of the pupils, and most obstinate constipation with tenderness of the abdomen. Relief followed the application of leeches to the neck and the use of purgatives. No pain or contractions of the extremities. Right side a little more feeble than the left. Neither strabismus nor deafness. Pupils dilated equally, no vertigo, hallucinations, nor noises in the ears. A month after admission there was little change. Patient protruded the tongue to the right, but could move it to the left when requested. Deglutition imperfect, vomited a good deal. Increased prostration and death without convulsions. The tumor, situated in the right side of the cerebellum, pressed on the right peduncle of the cerebellum, extending to the left side of the medulla.

It will then be seen that in some respects this case is unique. I have not been able to find the record of a single one in which an extra-medullary tumor so small as this one pressed on such a limited portion of the medulla and did not implicate the cerebellum. In reviewing the symptomatology of tumors of the medulla, the ordinary symptoms of brain tumor, persistent headache, dizziness, and vomiting are nearly always present in a greater or less degree. Double optic neuritis is not nearly as often found as in cerebellar tumors. Two general symptoms appear to be prominent in many of the cases : (1) Occipital headache, which extends down the back of the neck, and tenderness and stiffness of the latter region. (2) A peculiar sensation of coldness in the lower extremities. These were especially noticeable in Dr. Osler's case, as well as in my own. The other symptoms resulting from implication of the nerve nuclei in this region will vary with the situation of the tumor, and need not be especially referred to here.

The question now arises, Can we explain all the symptoms in this case by pressure of a tumor on such a limited portion of the medulla? By the aid of the drawings which I now show you, it will be seen that the ascending, or sensory, root of the fifth pair is in close proximity to the situation of the lesion, and this may account for the numbness of the face, which came on quite suddenly, and was the earliest of the localizing symptoms. The direct cerebellar tract also forms part of the restiform body, and the loss of co-ordination in the legs and arms may be accounted for in this way. Flechzig was of the opinion that the direct cerebellar tract conducted sensations from the muscles of the lower part of the body. In this case the muscles of the arms were much more affected, as far as conduction was concerned, than those of the legs. The nucleus of the auditory nerve lies just on the inner side of the restiform body, and the decided loss of hearing in the left ear may have been produced by greater or less destruction of this nucleus.

The slender columns of Lockhart Clarke pass also immediately internal to the restiform body. This has been termed by Krause the respiratory column. It is intimately connected, in the medulla, with the vagus, with the glosso-pharyngeal and spinal accessory nerves, and the respiratory symptoms in our case may be due to its destruction on one side. The nuclei of these nerves may also have been affected. The glosso-pharyngeal was seriously affected, as shown by the symptoms connected with deglutition which were present during the latter part of the illness. In one respect the symptoms in this case differ from those of tumor of the medulla as they are generally given. The disturbance of motion and sensation existed on the same side as that on which the tumor was found, although the pressure was exerted above the decussation of the lateral pyramidal tracts. It must, however, here be noted that, although the growth was on about the same level with others described, it was extra-medullary, whereas the others were intra-medullary, most of them having arisen from the ependyma of the fourth ventricle.

In Charcot's case, in which the pressure on the medulla was from without, the disturbance of motion and sensation was on the same side as the tumor. It will be remembered that the lower extremity of the growth was about a fourth of an inch below the apex of the calamus, and it is possible that some degeneration of nerve structure may be found below that point so as to influence motor fibres after decussation takes place. According to Spitzka the restiform body is made up of (1) the fibres of the direct cerebellar tract of the same side; (2) the decussating fibres of the opposite postero-external column of the cord which have previously passed through the olivary body; (3) some fibres of the postero-external columns of the same side. The destruction of sensation

may be due to pressure on either the second or third class of fibres as they have just been given. The want of co-ordination may have also been due to implication of the same fibres, as well as to pressure on the direct cerebellar tract. There was really very little absolute loss of sensation when I examined the patient; rather the presence of sensation of an abnormal character.

On microscopical examination the tumor was found to be a round-celled sarcoma, part of which was freely supplied with blood vessels. The short course of the disease may have been due to the fact that the tumor was of a rapidly-growing character, thus seriously interfering with the circulation of such an important nerve centre.

It is quite possible that the accident in which the patient received a blow on the back of the head may have accounted for the growth, which appeared within a year.



## TREATMENT OF PUERPERAL SEPSIS.\*

BY HENRY T. MACHELL, M.D.,

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TORONTO.

WHEN your secretary wrote a few weeks ago, inviting me to open the discussion on obstetrics by a paper on "The Treatment of Puerperal Sepsis," I thought the selection of the subject a most opportune one. In the first place, it is a subject in which every single member of this association is interested, either directly or indirectly, and, in the second place, the large mortality among the profession generally should set us thinking.

Before the theories of Semmelweis were made known, the mortality in the hospitals and maternities was much greater than that of the outside profession ; while since the theories of antiseptics and asepsis have come to be generally accepted, the reverse is the case. While the mortality in the lying-in institutions has dropped from 10 per cent. to 0.5 per cent. or less, the mortality of the general practitioner is now about the same as it was before the creation of antiseptics in surgery by Lister in 1866, and its application in obstetrics by Stadfeldt, of Copenhagen, in 1870.

According to the Provincial Registrar-General's report for the year 1893, the last year in which the records are complete, I find that the deaths from "puerperal diseases"—not puerperal sepsis, please bear in mind—are as follows : Toronto, with a population of 190,000 and births 4,153, two ; Hamilton, population 50,000, births 1,109, none ; Ottawa, population 45,000, births 1,089, one ; London, population 32,650, births 604, none ; and the county of York, 257,000, births 5,559, one.

I tried to find the number of deaths in Ontario for any specific year, but such is not obtainable from the records without an amount of figuring which I could not give to the subject.

Does anyone here suppose, for a minute, that the figures I have quoted give us any idea of the frequency of "puerperal deaths" in these

\* Read at a meeting of the Ontario Medical Association, Windsor, June, 1896.

four cities? I think not. "A rose by any other name smells as sweet," and so these deaths go down in the records by another name.

In these nor any other mortuary statistics is any account taken of the thousands of cases of mild puerperal sepsis which do not end in death, but leave the patient more or less of a physical wreck, scarcely able to look after herself, her husband, or her children—one who is likely to come later under the care of the gynæcologist, and possibly require "a section" for the cure of a pus tube, pelvic abscess, or some kindred disorder. These are the unreported cases, oftentimes the unrecognized ones, which occur in the practice of the physician of the "old school," who does not believe in this new fad, the modern "doctrine of germs," who has never practised antiseptics, has never had a death, and who has never seen but one or two cases.

We can only think such experience indicates an inability to recognize mild sepsis, and a habit of overlooking its manifestations, or affixing fanciful terms, such as "malaria," "milk fever," "fever from mental emotion," "the grippe," and "merely the result of exhaustion," etc., to a slight rise in temperature, a moderate tenderness of the abdomen, and a staleness of the lochia, which are characteristic of mild sepsis.

These, I repeat, Mr. President, are some of the reasons why I think the subject an excellent one, but I am very sorry, indeed, that the task of introducing it to the association has not fallen to other and abler hands.

The first point which seems to suggest itself is as to the nature of the poison in puerperal sepsis. Modern investigation has pretty well shown that the poison is septic in character, and that puerperal fever is really a surgical fever (that is, a fever produced by the introduction of bacteria), modified by the peculiar physiological conditions which belong to the puerperal state.

*Prophylaxis.* A knowledge of the causes of puerperal infection naturally suggests the proper prophylactic treatment. The indication is to exclude all bacteria: "No bacteria, no infection; no putrefaction, no suppuration." The same general principles of asepsis which have given such uniformly good results in surgery must be applied in all their rigor to obstetrics.

If consulted beforehand, the physician should advise his patient to select for her accouchement a large, cheerful, well-ventilated room, as far as possible from the water-closet and all sewer contamination. It should be scrupulously clean, and special attention given to all the linen. Simple boiling is usually sufficient. If the patient's condition requires it, tonics, etc., should be prescribed.

Lusk says: "The ordinary carriers of infection are unquestionably the unclean hands, instruments, utensils, clothing, wash material, and the like,

which are brought in contact, during or after labor, with the genitals of the female." Therefore, before making any examination the hands should be washed for some minutes with *hot* water and soap, and a stiff nail-brush freely used, as well as the penknife. The latter should be used for the purpose of removing germs from under and around the nails, but also for smoothing and trimming the nails, so that they may not scratch or irritate the vaginal mucous membrane in making an examination. The hands should then be dipped in a 1-20 carbolic or 1-1,000 bichloride solution and held there soaking for several minutes. The plan of pouring a few drops of carbolic acid in an uncertain quantity of water and then dipping the fingers lightly for a few seconds, or dropping a bichloride tablet in a basinful of water and toying with the ends of the fingers, as I saw done only a few weeks ago, is only likely to end in disappointment to the physician and, possibly, injury to the patient. I very much prefer hot water, soap, and a nail-brush—in other words, simple cleanliness—to this form of antiseptis. Howard Kelly's method of disinfecting the hands, while theoretically and practically the most perfect, will be found inconvenient and too complicated for the regular practitioner. Having washed and disinfected the hands, some lubricant should be used for the fingers, both in the interest of the patient and practitioner.

When possible, the external genitals should be cleansed with hot water and soap, and then the bichloride solution. This should be done more especially in dirty homes, or in patients of filthy habits, or in those who may be suspected of having omitted the usual preliminary bath. "But a healthy woman, clad in clean clothing, lying upon clean bedding, on a clean bed, and in a clean room, is quite ready for labor, and it will be the fault of those who touch her if she has puerperal fever."

Labor should be conducted so that the examining fingers enter the vagina as rarely as possible. If palpation and auscultation be practised early in labor, vaginal examinations need be but few. Before each examination, however, the hands should be washed again and dipped in the antiseptic solution.

In maternities and hospitals where the usual midwives and careless practitioners have made examinations before advising their patients to enter these institutions, the prophylactic douche is necessary; but in private practice it is certainly needless and often harmful.

Lacerations of the perinæum are particularly to be avoided, and to this end look well after the head as it is pressing on the perinæum. Use the fingers, the hand, the forceps, and chloroform to prevent the head from coming down too rapidly. The care of the perinæum should lie in the direction of keeping back the head, rather than in stretching or other manipulation of the perinæum itself. If the bowels move



about the time the head is being born, the anus should be covered, and all wiping should be done in the direction away from the vulva, and also done with the left hand.

The next point to which attention should be paid is emptying the uterus. Before the baby is fully born, the left hand should grasp the fundus and make some steady downward pressure. Too great haste should not be made to get away the placenta. Its hurried removal often means hæmorrhage a little later on. It should be removed by expression, and thus entering the vagina again avoided. The placenta and membranes should invariably be examined, and in case of a reasonable suspicion existing that a piece of placenta is left behind an examination of the uterine cavity should be made, and, if the suspicion is well founded, steps should be taken to remove what remains. The uterine cavity should not be explored as a matter of routine. Portions of membrane are not infrequently left behind, and should always be removed when this can be done easily and without much force. I have frequently left a piece hanging from the os rather than pull forcibly and risk its tearing off, and, on making enquiries next day, have usually been told that it came away during the first urination. If it has not been noticed, then it is quite time enough to introduce a finger and hook it out.

Should a vaginal douche be given immediately after each labor? I believe not, and have not followed this method for years. If the labor has been a severe one, even if the uterus has been invaded, I very seldom give either a vaginal or uterine douche immediately after labor. If at all uncertain of the condition of my own hands, or someone else's, it is better to give a douche, and preferably the bichloride one.

Whether the vaginal or uterine douche is used or not, the external genitals should be cleansed with an antiseptic solution after every labor or miscarriage and an examination made for perineal or vaginal lacerations. If found, it is of the utmost importance in the light of recent pathology that they should be closed at once; and, to this end, every obstetrical bag should always be provided with the proper accessories for doing this. It is much better to do the repairing at once than wait while one goes home for proper instruments, or to put it off "till the patient is stronger."

I am not wedded to any particular kind of napkin, provided it has been boiled and that it is large enough to exclude the air, and absorbent enough to take up the discharge from the vagina.

For the four days following labor it is advisable to have the nurse cleanse the external genitals with one of the antiseptic solutions every four hours, and during the succeeding four days every six hours. I prefer to have this done with the corner of a clean napkin, the nurse first having washed her hands.

Another possible cause of sepsis is the digital examination of the patient by the nurse before the physician's arrival.

These are the main prophylactic measures, and, if faithfully carried out, will, I am positive, be the means of saving our patients from occasional sepsis and ourselves from more or less anxiety.

*Diagnosis.* We all have a natural aversion to admit the possibility that sepsis may arise in our own practice, and we try to adopt every other explanation of the condition of the patient. Notwithstanding this, we should bear in mind that under strict asepsis the convalescence from labor is always perfectly smooth and unattended by any elevation of temperature, unless some intercurrent disease is present; that the mild disturbances which are frequently seen must, therefore, be considered mild sepsis; and that it is seldom possible to say in advance that they are not the initial stages of a severe attack. Every rise of temperature or disturbance of health during the puerperium is not, of course, due to sepsis; but every such disturbance should be considered sepsis until some other cause can be established to account for it. This is preferable to the physician shutting his eyes to the possibility of sepsis, and admitting it only after the incurable stage is reached.

For twenty-four or thirty-six hours after labor the temperature may be elevated as the result of fatigue, but if the subsequent temperatures should be above 99° its cause should always be promptly investigated. It may be due to (1) constipation, (2) mammary disturbances, (3) intercurrent non-obstetric disease, or (4) sepsis.

If constipation is present, it must be removed before the existence or non-existence of sepsis as a cause of the elevation of temperature can be absolutely determined. It is well to see that the bowels are thoroughly moved. I recollect a case on Kensington Avenue which gave me some anxiety for about forty-eight hours. The temperature ran up between the second and third day to 101°, the pulse was rapid, and there was headache and loss of appetite. The uterus was somewhat tender, but the after-pains had been pretty severe. The lochia were normal. I ordered a purgative, and though the bowels had moved later in the day when I called the patient was no better. I examined the slight perineal tear again, thought it looked irritated, and promptly took out the stitches. After I had done so I found the wound quite healthy, and before leaving gave a vaginal douche and calomel gr. *vij*. The next morning I found that the bowels had been emptied of some offensive material and the high temperature and headache had disappeared within a few minutes.

Slight disturbances in the breast may account for some rise of temperature, and should be easily eliminated by a physical examination, but the breast should not be permitted to account for the disturbance

unless the more constant symptoms of sepsis are absent, nor if the relief of the mammary irritability is not followed by a prompt drop in the temperature. The intercurrent, non-obstetric diseases are not to be lost sight of. The principal ones are (1) tonsillitis, (2) pneumonia, (3) malaria, (4) epidemic influenza, (5) typhoid fever, and (6) pre-existing latent inflammatory diseases in the pelvis. Tonsillitis is to be excluded by an examination of the throat, pneumonia by an examination of the chest, bearing in mind that cough and hurried breathing are often merely reflected from the pelvis. Malaria can only be differentiated from by a careful exclusion of the main features of sepsis. Chills recurring at regular intervals, and out of proportion to the constitutional disturbance, and which are followed by feverishness and a return to comfort before many hours, are more suggestive of malaria. By having the temperature taken frequently during the day there should be no difficulty, within thirty-six or forty-eight hours at least, in excluding malaria. In Toronto we have no trouble in this respect, for malaria here is a thing of the past. Since the advent of la grippe some half-dozen years ago, this disease has, to a great extent, taken the place of malaria during the lying-in period. La grippe is a convenient excuse, and one which usually pleases the patient. Typhoid fever, coming on two or three days after labor, is difficult to exclude for a few days. About fifteen years ago this occurred to me in the wife of a well-known clergyman here. After a normal labor the patient on the third day had one or more chills, followed by pyrexia, and, as I neither could nor would make a diagnosis, a homœopathic physician was asked to do so. A second member of the family had typhoid fever shortly afterwards.

Of course, a patient may have one of these intercurrent diseases and also sepsis as well. Yet it should be borne in mind that when the thermometer shows an elevated temperature the probabilities are decidedly in favor of sepsis if there is not positive evidence of some other disease.

Without doubt *the* treatment is the prophylactic one. Second only to this is the early diagnosis. Dr. Edward Reynolds, of Boston, has put this so forcibly that I give you his own words: "The early diagnosis of sepsis rests mainly on the physical signs which can be gained by examination of the patient. The symptomatology of obstetrical sepsis is commonly described as consisting of an elevation of temperature, a decrease in the lochia and milk, some decrease in the other secretions of the body, foulness of the lochia, and abdominal distension and tenderness, which latter is most marked over the fundus of the uterus; but this description is of little value to-day. He who fails to diagnose sepsis when such symptomatology is presented to him is ignorant of the rudiments of his art, while he who must wait till this symptomatology is present is unable to



diagnose sepsis at a time when his diagnosis is of very great value to his patient, for this group of symptoms is the symptomatology of constitutional infection, and when this is present the disease has passed beyond its early and curable stage, the physician has failed in his duty, and the patient is in an extremely dangerous, if not hopeless, state."

The principal diagnostic points which are of value in the early stage of the disease are the course of the temperature, and certain characteristics of the uterus only made out by a bimanual examination. A close scrutiny of the temperature will give us the earliest hint that something has "gone wrong." It is the first danger signal hung out by nature. This should always be put down in black and white during every labor. In the ordinary form of sepsis the temperature is usually gradual and insidious in its rise. The other main early diagnostic points are in connection with the uterus itself. There is almost invariably tenderness as soon as the temperature shows even a slight rise, and this tenderness persists.

Given, then, a gradual rise of temperature and uterine tenderness, we have, in the absence of otherwise unexplained pyrexia, a sufficient reason for making a genital examination. If, in addition, there is fetor of the lochia, a careful vaginal examination is positively called for. If the perinæum has been torn, examine this carefully with the patient on her back and in a good light. If angry in appearance, or stitch-hole abscesses exist, or any localized tenderness or bogginess is to be felt, the stitches should be removed and parts cleansed. The vagina should then be examined and search made for simple abrasion, laceration, or the diphtheritic gray patches. Having made an inspection of the vaginal mucous membrane, attention should be called to the cervix and cervical canal. If no lacerations or gray patches are found, an applicator wrapped with sterilized cotton is passed into the uterus and the odor of the lochia noted, as the uterine lochia may, in early sepsis, be offensive at a period when the vaginal lochia are still normal. If no odor is made out, the sterilized swab may be put into a sterilized test-tube and a bacteriological examination made later. If traction is made on the anterior lip of the cervix by a volsellum, it will facilitate the introduction of the applicator. It may so straighten out the canal that pent-up lochia may gush out. The odor of this is to be noted, and also the degree of dilatation of the canal. A bimanual examination should now be made. The size, consistency, and tenderness of the uterus should now be noted, since subinvolution, undue softness, and tenderness of the fundus and an undue potency of the os are characteristic of the infected uterus. Finally, the broad ligaments and uterine appendages should be palpated for acute inflammatory conditions in their substance. Such an examination will well repay the physician by a relief from anxiety consequent upon the exclusion of sepsis, or by the advantages to the patient from an early diagnosis.

*Treatment.* If the inspection shows vaginal lacerations or gray patches and foul vaginal lochia, while the cervical lochia are normal, it is only necessary to disinfect the vagina, which can be done by a bichloride or carbolic or creolin douche, followed by the application of pure carbolic acid, or undiluted Churchill's tincture of iodine, to the lacerations. The parts should then be dusted well with powdered acetanilid, or iodoform. A repetition of this may not be called for. But, if the patient is no better on the following day, or if, in addition to the infected vagina or cervix, the os is quite patulous and tender and the uterus soft, flabby, and over large, the chances are that the endometrium is already infected, and to it attention must be directed.

It may be treated by antiseptic uterine douches, by douches and iodoform bougies or pencils, as first advocated by Richardson, of Boston, and by both of these methods in combination with thorough curetting. Before deciding upon any of these methods it is prudent, and may prevent a waste of valuable time, to introduce the index finger into the uterus and explore the whole endometrium. Valuable hints are often obtained in this way by the intelligent finger accustomed to palpation.

Of what use is the douche, if the finger finds a piece of placenta attached or membranes adherent, or how absurd to think of curetting when an intrauterine douche alone would be sufficient to carry out a few small pieces of decomposing membrane. Intrauterine douches are of undoubted value in cases of that condition called by Matthews Duncan *sapræmia*, where there is simple absorption of ptomaines from the decomposition of a blood clot or retained membranes. Simple sterilized water thrown well up to the fundus answers well in these cases, and often does not require repeating.

Intrauterine douching is not without its dangers, but they are not so great as sepsis. The same may be said of the curette, but these are more frequently the result of carelessness, and therefore may more easily be avoided. The two main dangers from the curette are, first, that "an incomplete removal of débris leaves a fresh wound in direct contact with septic material ; but experience shows this can be avoided by thoroughness in the use of a good technique." Second, the walls of the puerperal uterus are soft, and might be perforated by a sharp or small curette, if carelessly used. The curette should have a large blade, to save time in going over the interior of a large uterus, and also to distribute its pressure over a large surface. (In abortions a small one is more useful for obvious reasons.) It should have a shank long enough to reach the fundus, and the shank should be flexible, so as to enable the operator to curve it sufficiently to reach every portion of the endometrium. The Rheinstadter irrigating curette is advised for this purpose by Edward J. Lee, of Newark. If

an intrauterine douche only is indicated, I am in the habit of turning the patient across the bed and using this tube (tube shown) without a speculum. It is long enough to reach the fundus, except in very large uteri, when I use a long glass tube. Either can be boiled; the vulcanite one may be given any curve desired.

If it is thought advisable to use the curette, and I think it always best to do so except in the simple sapræmia cases, the patient should be placed across the bed, with or without an anæsthetic, the cervix exposed through a speculum, the anterior lip caught by a volsellum, and particular notice taken to see if there is a gush of lochia on making traction and straightening out the uterine canal. (If such is the case, drainage by a light gauge iodoform tampon is always indicated after the curetting.) The os being exposed, the douche tube, emptied of air, is passed through the speculum up to a point near the fundus, and a stream of bichloride solution turned in and continued till it returns clear. The curette is then to be used, going carefully over such surface, taking particular care to scrape thoroughly the cornua in the neighborhood of the Fallopian tubes. I am in the habit of steadying the fundus with the left hand over it. There is less danger of perforating the uterine wall if this is done. If the curette scrapes off much placenta or decidua, the douche had better be used again; if very little is scraped off, wiping the interior thoroughly with cotton on an applicator till dry is preferable, then swab it with Churchill's tincture of iodine. In the large soft, flabby, thin-walled uteri, after being dried, the application of pure carbolic acid to the endometrium disinfects it, seals up the torn ends of the vessels, and does not prevent one using a light gauze drain afterwards, as the Churchill does. In other cases I prefer the strong Churchill. It seals up the vessels, and, in addition, sets up powerful uterine contractions, as anyone is compelled to observe who tries to withdraw the applicator charged with it from the uterus. If properly performed, the method is often admirable in its results. A couple of years ago I saw in consultation a case on the eighth or ninth day after labor in which the attending physician had curetted once and given intrauterine douches daily, and yet the chills recurred and the temperature kept up from 102° to 105°. I used the sharp curette (tentatively at first), removed some hard placental masses, and swabbed the uterus with pure carbolic acid, and then Churchill. The temperature dropped to normal within twenty-four hours. This was merely the result of thoroughness in curetting. If the curetting and disinfection have been thorough its repetition will seldom be necessary, and the disappearance of the septic symptoms within twenty-four or forty-eight hours will be the rule. These cases should all get well.

There is another class of cases, however, where on the third or fourth day the temperature suddenly rises above 101°, with or without a chill.



These cases of septicæmia are ones of extreme virulence, and usually promptly fatal. Such infection can only occur from the introduction of great numbers of pathogenic bacteria. This form has been called by Garrigues *septicæmia acutissima*. Prompt curetting and disinfection may even be too late to save these cases, but this should always be done once, and done early, even though one may fear that the bacteria have already produced septic infection and are beyond the reach of the curette. Apparently hopeless cases will sometimes recover after curetting, especially if active supportive treatment be instituted at the outset.

In sepsis, beginning as a mild form, which has been allowed to run on some time before effective treatment is begun, and in acute cases, where the bacilli rapidly invade the uterine and other pelvic structures, surgical treatment must come up for consideration ; but at present this is a field in which much is to be learned, and in which grounds for positive opinions are not yet clearly defined. In a small class of cases, however, obstetricians and gynæcologists join hands in advocating a prompt resort to abdominal section. I refer to those cases where there is a "pre-existing pus tube, a uterine fibroid, or ovarian dermoid, converted by the trauma of labor into activity as an infecting source."

Byron Robinson, of Chicago, reports two cases of suppurating puerperal peritonitis caused by rupture of pathogenic cysts in the Fallopian tubes. These two cases, shown by autopsy, occurred in Cook County Hospital, after a run of over eighteen hundred cases without a death. Having decided by a careful bimanual examination in connection with the previous history of the case that the cause of the sepsis is extrauterine, there are theoretical grounds, at least, that the proper method of treatment is "prompt operation, irrigation, and drainage." Hirst, of Philadelphia ; Davis, of Birmingham, Ala. ; and Edward Reynolds, of Boston, have each operated for this class of cases. Chas. P. Noble, of Philadelphia, believes that cases of puerperal peritonitis in which the septic is more marked than the inflammatory element are not amenable to treatment by cœliotomy. He says : "I know of nothing, either in my own experience or in literature, which gives the least encouragement for operating on this class of cases. All that have been operated upon have died. A simple cœliotomy, with washing out the peritoneal cavity, does not influence the principal seat of the trouble, which is in the uterus and pelvic lymphatics. Cases of puerperal peritonitis in which the septic element is less marked are more amenable to treatment."

Polk and Outerbridge, of New York, have reported successful cases of cœliotomy for localized peritonitis, done within the first week, and many others at a later period.

Noble says it is safe to conclude that the prognosis of cœliotomy done

for general puerperal peritonitis is fatal. Edward A. Ayres corroborates this. He has been able to collect nine cœliotomies for general diffuse septic peritonitis, of which eight were fatal.

Large or well-marked pus accumulations had better be opened through the vagina. I discharged a patient from St. John's Hospital a fortnight ago in which this was done for cellulitis following an abortion.

There is another class of cases yet, in which the disease goes on from bad to worse in spite of curetting, irrigation, etc., cases in which the infected uterus is the nidus of the disease, the peritoneum, the cellular tissue, and lymphatics escaping, or being but slightly involved. A few years ago these cases would have been treated by repeated irrigation, and probably a few would have recovered, but the majority would have done otherwise. Now, it is proposed to perform hysterectomy in such cases. Howard Kelly, Lapthorn Smith, and C. B. Penrose have each performed successful operations. Montgomery, of Philadelphia, also did this operation, but the result was unfavorable. In his case pus was found in the uterine sinuses. Noble advocates hysterectomy in those cases in which the infection is limited to the uterus, when in spite of thorough curettement of the uterus, together with copious irrigation of the utero-vaginal canal, and the employment of proper systemic treatment, the infectious process increases in severity. These measures should be continued for twenty-four or forty-eight hours; the pulse, temperature, stomach, general condition, and *morale* being the best guide in deciding for or against the operation.

In the *Medical Record* of May 2nd, this year, Dr. Alfred B. Carpenter, New York, reports a successful case of vaginal hysterectomy for sepsis due to retained decidua, performed on the sixth day after a miscarriage. He advises the operation after a second chill has occurred and there is no longer any doubt as to the diagnosis. All of us, I fancy, can scarcely agree to that proposition.

#### GENERAL INDICATION.

It will be noticed that, so far, I have not said anything about the medicinal treatment of these cases. Antipyretics, especially the coal-tar products, are prescribed almost every day as soon as the temperature begins to go up—certainly as soon as it reaches 100° or 101°. They *may* succeed in bringing down the temperature, but the sepsis remains. *It* is not affected, the seat of the disease has not been touched, and the false lowering in the temperature only serves to mislead, and valuable time is lost. If *less medication* and *more local attention* were given, our records would be better. The use of alcohol also in the early stage is not advisable. Purgatives are indicated in every case having the faintest suspicion of sepsis. I usually begin with six or eight grains of calomel, and, after

that, sulphate of magnesia in sufficient quantity to produce three or four evacuations each day. For the reduction of the pyrexia I would suggest the use of the head and abdominal coil, or free sponging, in preference to antipyretics. After the disease is well established, local treatment is not lost sight of. I believe there is little hope for the patient unless the source of the poisoning is attacked by local measures. When this has been done, constitutional treatment is of the utmost importance ; it is the only means of treatment left. Alcohol in large quantities, free feeding, quinine, strychnine, etc., are mainly to be relied upon.

Theoretically, the staphylococcus antitoxin should be of use in these cases. Whether it will become so practically remains to be seen.

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## ADENOMYOMA OF THE ROUND LIGAMENT.

BY THOMAS S. CULLEN, M.B. TOR.,

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ISOLATED cases of adenomyomata of the uterus have been from time to time reported, and recently our interest in these cases has been awakened by the excellent work of v. Recklinghausen, "*Die Adenomyome und Cystadenome der Uterus und Tubenwandung*," and within the last few months we have had two cases in the Johns Hopkins Hospital.

While adenomyomata of the uterus are not so rare, similar tumors of the round ligament have apparently never been reported.

Leopold described a cystic myoma of the round ligament, and, after carefully examining the tumor microscopically, came to the conclusion that the cyst cavities were dilated lymph spaces.

Aschenborn, in a patient with phthisis, found a tumor the size of a walnut lying in the inguinal canal and springing from the round ligament. It was a thick-walled cyst, and contained clear, transparent fluid. The microscopic appearances were not described.

Coulson had a case closely resembling that of Aschenborn. Roustan describes a case observed by Duplay. Situated over the external ring was a tumor twice the size of a man's fist. This, on section, resembled a cystic testicle. Microscopically the solid portions consisted of non-striped muscle, adipose, and connective tissue. Some of the cyst-like spaces were traversed by trabeculae. None of the cavities presented any epithelial lining. The tumor was a myoma undergoing degeneration.

The above are the reported cases which at first sight might bear some semblance to the case I report.

### CLINICAL HISTORY.

L.N., æt. 37, admitted in the service of Dr. Kelly, Oct. 18, 1895.

The patient has been married thirteen years ; had one instrumental labor seven years ago. Her menses commenced at fourteen, and were regular until the birth of the child, since which time they have occurred every three weeks, have been very copious, and have lasted from four to

five days. The latter part of each period has been accompanied by a good deal of pain, which persists for several days after the flow ceases. Last menstrual period two weeks before admission.

*Family history.* Her father died of paralysis; one aunt and her grandmother died of carcinoma.

*Present trouble.* About eight years ago the patient noticed a slight swelling in the right inguinal region. This has gradually enlarged, especially during the last two years. She has experienced severe cutting pain in the nodule. The pain radiated to her back, and was most severe after exertion or at the menstrual period. The patient is debilitated; her appetite is moderate; bowels regular. She has a thick white or yellowish leucorrhœal discharge. This is non-irritative, and is not offensive.

Vaginal examination is negative.

The mass occupies the upper part of the right labium. It is irregularly ovoid, and is firmly fixed in the deep tissue; it is, however, movable to the extent of 1 cm.

*Operation by Dr. Kelly, Oct. 19, 1895.* An oval incision was made over the site of the nodule. The mass was freed laterally and posteriorly. Above, it was closely connected with a band of tissue 1 cm. broad. This proved to be the right round ligament. The round ligament was traced upward to the internal ring. Midway between the external and internal ring it contained a nodule 1 x .6 cm. in diameter. The round ligament was pulled down, clamped, and cut off at the internal ring. Several enlarged lymph glands were then dissected out. The pillars of the ring were brought together by silver wire sutures. The round ligament was sutured into the canal. The canal throughout its entire extent was closed by mattress sutures of silver wire. The incision was then closed with catgut. The patient was discharged on November 3.

#### ANATOMICAL APPEARANCES.

Pathological No. 928. The specimen consists of a piece of tissue 7 x 4 x 3.5 cm. One surface of this is covered by normal skin, the underlying tissue is composed of fat, embedded in which is an exceedingly firm nodule 3.5 x 3 x 2 cm., Fig. 1.

This nodule on section is composed of interlacing bundles of fibres which form a dense network. Scattered throughout the nodule are many small irregular, pale, translucent, homogeneous areas. On examining the specimen after hardening in Müller's fluid, some of the homogeneous areas are found to contain round, oval, or irregular spaces. Accompanying the specimen are several lymph glands, one of which is 1 x .8 cm.

#### HISTOLOGICAL EXAMINATION.

The nodule is to a great extent composed of non-striped muscle fibres which wind in and out in all directions, but do not show any concentric



arrangement. In many places the muscle fibres are swollen, and the cell protoplasm contains large quantities of yellowish-brown granular pigment. At several points the muscle has undergone hyaline degeneration. This is especially noticeable around blood vessels. The blood supply is abundant. Scattered here and there throughout the muscle substance are small islands of adipose tissue. Traversing the nodule in all directions are glands, Fig. 2. Some of these are small and round on cross-section, others are cut lengthwise. These glands are surrounded by stroma similar to that of the uterine mucosa. It would be impossible to distinguish some of these from uterine glands. A few of the glands present slight dichotomous branching. Some of the glands contain round masses of protoplasm, scattered throughout which are several nuclei. These giant cells appear to be cross-sections of tufts of epithelium.

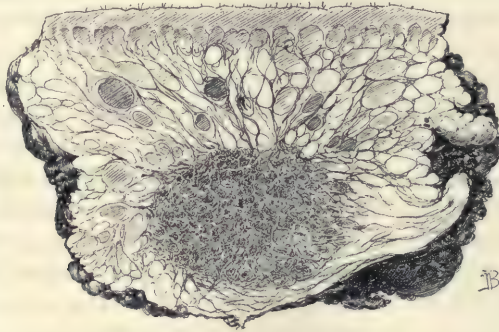


FIG. 1.\*—Natural size. Longitudinal section of the tissue removed. The upper portion is skin, and the greater part of the specimen consists of lobules of fat. The round or oval dark areas in the fat are hæmorrhages. Situated in the adipose tissue is the tumor, which consists of muscle bundles. Scattered here and there throughout the muscle are round or irregular dark spaces; these represent the dilated gland cavities. Running into the myoma from all sides are strands of connective tissue.

In many places the glands present a peculiar arrangement, and correspond to v. Recklinghausen's pseudo-glomeruli. These pseudo-glomeruli consist of stroma resembling that of the uterine mucosa. They contain numerous capillaries, and they may have one or more glands situated in their depth. In some places there is hæmorrhage into their stroma. The pseudo-glomeruli are half-moon-shaped, cone-shaped, or irregular in contour. They are covered by one layer of cylindrical ciliated epithelium. What corresponds to Bowman's capsule consists of a layer of cells resting directly upon the muscle fibres. The cells of the capsule opposite the convexity of the glomerulus are almost flat; on passing off laterally they are seen to be cuboidal or cylindrical. The cells of the so-called capsule

\*We are indebted to Dr. Henry M. Hurd, editor of the Johns Hopkins Hospital Bulletin, for his kindness in placing these cuts at our disposal.

are directly continuous with those of the pseudo-glomerulus. The space between the capsule and the glomerulus may be empty; many, however, contain desquamated epithelial cells, some of which are vacuolated and contain brown granular pigment. Numerous spaces contain red-blood corpuscles. On tracing one of the spaces laterally it is found to be directly continuous with the lumen of a gland. The capsule forms one wall of the gland and the pseudo-glomerulus the other, Fig. 2. In other words, the space between the capsule and the so-called glomerulus is nothing more than a dilatation of the gland cavity. In numerous places the gland



FIG. 2.—Sixteen times enlargement of a portion of the adenomyoma. The specimen consists chiefly of non-striped muscle fibres. In the right lower corner are masses of fat cells, and near the left lower corner are several fat cells. In the vicinity of the left upper corner is a pseudo-glomerulus; this is composed of stroma, scattered throughout which are cross-sections of several glands. The surface of the glomerulus is covered by one layer of cylindrical epithelium, and its capsule is composed of one layer of cells which in places are cuboidal or almost flat. The cells of the capsule have practically no underlying stroma, but lie directly on the muscle fibres. The space between the pseudo-glomerulus and the capsule is, on tracing it to the right, seen to be continuous with a gland cavity, and is nothing more than a dilated portion of the gland. Above and to the right of the pseudo-glomerulus are cross-sections of two glands, below it are several longitudinal sections, one showing dichotomous branching. All of the glands are surrounded by stroma, which separates them from the muscle.

epithelium on one side is found to be cylindrical, on the other side cuboidal or almost flat. On examining this more closely it is found that where the epithelium is separated from the muscle by a moderate amount of stroma it is cylindrical, but that where the epithelium rests directly upon the muscle it is invariably cuboidal or flat.

A few small glands are seen lying directly between muscle bundles. Extending into the myomatous growth from the periphery are numerous bands of connective tissue. The adipose tissue surrounding the myoma shows considerable hæmorrhage. The skin covering the surface of the

specimen is normal. The lymph glands, apart from being somewhat swollen, are normal.

Unfortunately we are not able to obtain the smaller nodule of the round ligament for examination, and cannot say whether it was an adenomyoma or not.

From a clinical standpoint the excessive pain in the nodule at the menstrual period is significant. It leads to the belief that there was some definite sympathetic relation between the uterus and the nodule in the round ligament.

Both v. Recklinghausen and I considered adenomyomata of the uterus non-malignant, and the fact that the nodule in this case existed for eight years and increased very slowly, and at the operation showed no evidence of malignancy, strengthens our belief that these tumors are benign.

The only case in the literature that throws any light on this case is the one reported by A. Martin. A patient, æt. 70, consulted him about a rapidly growing tumor. He opened the abdomen and removed twelve litres of chocolate-colored fluid from a tumor which presented at the incision. This growth sprang from the left round ligament, being connected with it by a pedicle. Pommorsky, who made the microscopical examination, found that the cyst containing the chocolate-colored fluid had very thin walls, and that its inner surface was in places covered by clots. The pedicle of the tumor contained several small cysts which were filled with clear fluid, and which communicated with one another. One of these cysts was lined by low cylindrical ciliated epithelium. Martin says that in this case the structure and contents corresponded to those of tumors arising from the parovarium.

#### ORIGIN OF THE GLANDS.

The glandular elements in our case correspond very closely to those found by v. Recklinghausen in adenomyomata of the uterus. In those cases he was able to trace a marked resemblance between the tumor glands and remains of the Wolffian body, and came to the conclusion that the glands were derived from this source. While admitting the probability of the glands in our case being due to remains of the Wolffian body, we cannot, from their striking resemblance to those of the uterine mucosa, and from the fact that their stroma resembles that of the mucosa, refrain from suggesting the possibility that they may be due to an abnormal embryonic deposit of a portion of Muller's duct.

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## ANEURISM OF THE AORTA COMMUNICATING WITH LEFT AURICLE.

BY ALEXANDER MCPHEDRAN, M.B.,

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TORONTO.

The infrequency of this condition gives added interest to this case. His history briefly is as follows :

R. R., aged fifty, born in Scotland. His family history is unexceptional. He left school at thirteen years of age and was an errand boy for two years. Then he became an apprentice to the watchmaking trade for six years, after which he travelled about for a few years. Then he devoted himself to athletic sports, especially footracing, on one occasion rupturing a muscle in the calf. Later he gave his time to golf, and the manufacture of the clubs, and this he has continued up to his present illness. About fifteen years ago he began to take stimulants in moderation, but says he has never drunk to excess, nor does his appearance indicate that he has.

He gives a history of good health until March last, when he got his feet wet, from which he took a severe cold. On April 1st he was at the golf links. It was cold and stormy, and he took a severe chill. The chest was poulticed, and next day he was better. Since then he has been troubled with shortness of breath and has lost strength. On account of this distress he was admitted to the Toronto General Hospital, May 8.

*State on admission.* He had an anxious expression, was anæmic ; lips were cyanosed. The breathing was shallow and rapid ; there was considerable cough, with expectoration of mucus. The expansion of the chest was poor. The præcordial impulse extended outwards to the anterior border of the axilla. The action of the heart was irregular and tumultuous. There was pulsation at the xiphoid cartilage. The abdomen was rounded and fairly tense, and contained considerable serum. The lower extremities were markedly dropsical.

In the lower part of the chest on both sides the percussion note was flat and the breathing sounds barely perceptible, probably on account of serous effusion into the pleural cavities.

There was a loud systolic murmur heard over the whole præcordial region and for some distance beyond it ; also around to the back. There was no definite point of maximum intensity. The pulmonic second sound was accentuated.

The pulse was weak, and very irregular in rhythm as well as in frequency. The arterial coats were considerably thickened.

The urine contained no albumen. Its specific gravity was 1020, and volume somewhat below normal.

The liver was large, its lower margin being two-finger breadths below the costal margin.

Treatment did little to improve his condition. Salines were given in the morning to cause a free watery evacuation. Digitalis, strophanthus, diuretin, and strychnine were given in large doses, with alcoholic stimulants, but without improving the cardiac symptoms or relieving the breathing. Morphine was given at bedtime subcutaneously to quiet the irregular heart and give sleep, but it had no effect on the heart and gave but little rest.

His condition altered little ; sometimes he was a little better and then worse again. On the 15th of June he was much distressed during the night, and died quite suddenly in the morning.

A post-mortem examination would not be permitted by the friends, but the heart was removed without their knowledge. It weighed nineteen ounces ; the valves were fairly healthy, showing only some atheromatous change, but they were quite competent. In the aorta, just above the sinuses of Valsalva, were three small aneurisms. One projected to the right in front of the pulmonary artery and formed a pocket large enough to receive the end of the middle finger. A second one, of the same size, extended to the left, and communicated with the left auricle by an oval opening about 4 mm. in length. Its edges were smooth, and apparently covered by epithelium. The third was only rudimentary, was of a similar character, and projected backwards.

It is very much to be regretted that a full autopsy could not be obtained, as without that it is impossible to estimate to what extent the symptoms were due to the perforation of the aneurism into the left auricle. There is little doubt that to this was due to the loud systolic murmur present, as there was no valvular incompetence, unless due to dilatation of the left ventricle—relative incompetence. The ventricle did not seem sufficiently dilated for such a loud murmur to be produced ; in any case, it would scarcely have caused so loud a murmur in the feeble action of the ventricle that would necessarily have existed. The general symptoms pointed rather to obstruction of the large veins just outside the heart than to the heart itself. There were the signs of marked, but not extreme, venous obstruction in the cyanosis, the dropsy and œdema, and the



enlarged liver. On the other hand, the lungs did not present the symptoms of the extreme engorgement that occurs from failure of the heart, especially in mitral regurgitation. In addition to this, there was the failure of treatment to effect any amelioration of the symptoms, a quite unusual history in a first attack of heart failure in chronic heart disease. In a case with similar though greater evidences of venous obstruction, and with a history much like the foregoing one in this hospital, under my care at the same time, there was found at the autopsy a large aneurism of the ascending aorta pressing on the large veins and producing the venous obstruction. It is probable that aneurism was the cause of the symptoms of venous obstruction in this case also, and that the opening into the left auricle did not cause much disturbance.

## Selected Articles.

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### CHLOROFORM OR ETHER?

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BY JOHN FREEMAN, F.R.C.S. ED.,

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THE question of which is the best and safest general anæsthetic continues to be constantly brought under the notice of the profession by the frequent occurrence of deaths during anæsthesia. The fact that opinions are still so divided shows that a good deal can be said in favor of both chloroform and ether; but one thing stands out pre-eminently, and that is that when deaths do occur they are nearly always where chloroform has been used. It is also fairly evident that, so far, experiments on animals have not helped us much in coming to a right conclusion as to the safest anæsthetic to use for the human subject.

*Chloroform.* One of the great advantages of this agent, and, I believe, reasons, speaking generally, why so largely used, is the very simple way in which it can be given, even by one who has had very little experience in anæsthetics. It is also fairly pleasant for the patient to inhale, and in the great majority of cases it answers the purpose admirably; but these advantages are counteracted by the treacherous way it acts in some instances.

A few of the deaths reported lately are good illustrations of the different ways in which chloroform appears to kill. Some of the patients were obviously not fully under the anæsthetic, as they were said to have "struggled, evidently feeling the pain," and immediately afterwards the heart and respiration stopped. Others, in going under, struggled violently and suddenly died. Another died just after he had been lifted from one place to another; while another succumbed apparently because the chloroform was administered to him whilst he was sitting upright.

It is not my intention to attempt to criticize the method in which the anæsthetic was given in these cases, because I think the whole circumstances should be taken into account. For instance, the nature of the

operation may demand that the patient's head be raised, or it may be quite necessary to lift him from one place to another. There is one point I should like to touch upon in connection with these cases, and it is that in those cases which died after struggling it is almost invariably suggested that they died from an overdose of chloroform brought about by the inhalation of a large quantity of the anæsthetic in the deep inspirations that occurred between and after the acts of struggling. To say this in any case is to throw considerable blame upon the anæsthetist, as it means that he gave the chloroform in an unscientific if not a reckless manner. That it is possible for a patient to take an overdose in this way no one is likely to deny; but that it is the probable cause of death is, I think, very doubtful. These deaths from struggling have happened in the hands of experienced anæsthetists, who must have been well aware of the fact that any rash pushing of the drug at this stage was particularly dangerous, and there is very little doubt they took every care that no chance of overdose was given.

There is another way of explaining these cases. When a patient struggles he always holds his breath, and it is generally understood that any obstruction to breathing, whether the chloroform is being given at that particular moment or not, is very likely to impede the heart in its action. If the breath is held for any particular length of time the pulmonary circulation and the right side of the heart become engorged, and in this way the heart's action is interfered with. The heart, thus working under difficulties, now has another strain thrown upon it by the violent exertions of the struggling patient. It has been noticed many times that the heart will stand very little extra work in some patients during the inhalation of chloroform. The mere lifting of the patient from place to place, or sitting him upright, have been sufficient to cause death, even when the respiration had been apparently good; but in these cases the respiration is embarrassed and the heart is already weakened by the over-distended condition of its right side.

Why, then, since we have two well-recognized dangerous conditions present, each of which has, in several cases, produced death, must we bring in another cause, viz., the overdose theory, before we can satisfactorily explain these accidents? This overdose theory has far-reaching results, and it is quite possible that it is accountable for some of the deaths that occur in other ways. One not infrequently hears of half an hour or more being taken to get a patient under with chloroform. All statistics show that the going-under period is one of the most dangerous; anyone, therefore, who unduly prolongs this period must subject his patient to unnecessary danger, and this is brought about by the fear of giving an overdose. The same sort of an idea is shown, again, in those



cases which die apparently from syncope, through the operation having been commenced before the patient was sufficiently under. Hence, we read of the patient "moving, evidently feeling the pain"; or, again, "the corneal reflex was present." All such cases as these seem to show that the administrators of the chloroform wanted to prove that the patients did not have an overdose. Dr. Hewitt, in his book on anæsthetics, says "there is about as much risk from administering too little as from administering too much chloroform," and the reports of these cases appear to point to the correctness of his view. Again, if most of the deaths under chloroform are due to overdose, as some seem to think, how is it that accidents happened with those who used inhalers that measured the chloroform vapor given to the patient? and why is it that most of the fatalities did not occur in the practice of those who make a rule of using large quantities of chloroform in their administrations? For instance, one celebrated anæsthetist thinks nothing of using as much as two ounces for a small operation which can only last a few minutes. Have we to go to such as these to find the majority of fatalities? It is more common to read of death taking place after only a small quantity of chloroform has been used. One case was lately recorded where the patient died from half a drachm. In two cases it was noticed that the heart stopped before the respirations, and several others read as though death was due to primary cardiac syncope. Chloroform—in some patients, at any rate—appears to put the heart into a condition of instability; that is, in this state its action is affected, and may be stopped by circumstances which at no other time have such influence on it. Hence, interfered respiration, the act of vomiting, the feeling of pain, etc., have all, in their turn, brought the heart to a standstill.

The large number of deaths that have happened lately in children shows that chloroform is not such a safe anæsthetic for them as was once thought.

Since deaths are so frequent under chloroform, the question ought to be considered whether we are quite justified in employing this agent. It is true the chance of an accident happening in any particular administration is very small; but there is no doubt that in all those cases that ended fatally the anæsthetists thought the same thing, and probably some of them told the patients as much. There are some who, because they have given chloroform a great many times without any accident, have come to look upon it as a safe agent; but whilst they have had good luck, others quite as experienced have not been so fortunate; besides, as only a small proportion of patients die in this way, many anæsthetists will chance to have a large experience without a death. But at the same time, since we have no means of telling which patient will take chloroform well,

and which one will die from it—a strong, healthy man being just as likely to fail as a weak one—it is doubtful whether we are doing the best for the patient when we proceed to give this anæsthetic, unless there is some special reason why it should be the one selected.

*Ether.* This anæsthetic appears to be becoming more generally employed every year. There are several reasons why it is not used more. It requires an apparatus for its administration. Some might say this ought not to be a reason ; but, still, one may be called suddenly to give an anæsthetic where there is no ether apparatus, so chloroform has to be resorted to. Another reason is that ether is a little difficult to give. While one who has never administered an anæsthetic before will be able to get a patient under fairly easily with chloroform this is not usually the case with ether. Great difficulties may be met with by the beginner, and with a strong patient there would very likely be failure. Ether is not pleasant for the patient to take, and it is said not to relax muscles sufficiently in some cases. The most important objection, however, and the one which chloroform advocates use against it, is in its after-effects, particularly in regard to affections of the air-passages. These points about ether are worth some consideration. The difficulties connected with its administration are to a great extent preventable : it can be given in such a way that thirty or forty cases in succession will take it without there being struggling or any other difficulty ; and when one sees a very muscular man go under without moving so much as a finger, as is frequently the case, it is difficult to believe that he is experiencing any very great discomfort. The causes of struggling, etc., are sometimes fairly obvious, and may be due to too strong a vapor being presented to the patient at the commencement of the administration. The patient, finding it impossible to breathe this, although he may try his utmost, naturally begins to struggle for breath. Another cause is, that the ether is sometimes commenced when the bag is only half full of air, and some that is in it will very likely be allowed to escape, through the face-piece not being applied properly, so in a minute or so the bag is empty. The patient tries to take an inspiration, when the bag collapses, as there was so little in it. Under such circumstances, is it surprising that the patient, finding he cannot get air to breathe, should struggle? Again, giving too much fresh air at an early stage of administration is a frequent cause of struggling. You may see a patient begin to take ether perfectly, and he may have got to the stage where consciousness is just being lost, the breathing being rapid and forcibly expanding the air-bag at each expiration. Should at this period the anæsthetist unguardedly allow two or three breaths of fresh air, trouble may be expected. A small quantity of fresh air at this stage will restore the patient's consciousness, and bring back sensitiveness to

his air-passages. On the inhaler being reapplied, the patient instantly holds his breath, he feels and realizes the pungency of the now somewhat strong ether vapor, and struggling, vomiting, and other troubles rapidly follow each other.

Such points as these make all the difference to the sensation experienced by the patient, and very little practice will prevent those who are learning to give anæsthetics from making such mistakes. This is why I hold that students should have the opportunity given them of learning to administer ether. When they get into practice they can please themselves whether they precede the ether with nitrous oxide, or use a little A.C.E. mixture until the patient is becoming unconscious. These are only details : the important thing is that they will feel capable of administering properly what in future will most likely be considered the safest anæsthetic. I do not agree with those who say that ether will not sufficiently relax muscles for some operations. I believe that continued rigidity of the muscular system depends much more upon how the ether is administered than upon any peculiar idiosyncrasy of the patient, and I never meet with cases in which I cannot for all practical purposes completely relax the muscles. All patients, in going under with ether, pass through a stage in which there is more or less rigidity. This passes off in most patients in a minute or two, but there are two classes of individuals—the alcoholic, and the very muscular—in which this may not happen. These remain rigid for some time ; and you may have the ether on full, and limit the supply of fresh air to a large extent, and yet the spasm continues. These are exceptional cases and they require different handling, but it is a mistake to think that nothing more can be done to get them under. The appearance of the patient in this condition gives one the key to the difficulty. The muscular spasm is a general one, and so the muscles of respiration are included. The result of this is, that the patient becomes deeply cyanosed. On giving a plentiful supply of fresh air to remove this cyanosis, one notices at the same time that the muscles begin to lose their rigidity ; so in these cases, when I find, after a good trial of ether, that the muscles do not relax, I remove the inhaler altogether, and let the patient have fresh air until his normal color returns and the rigidity begins to subside. Of course, this procedure brings the patient half round from his anæsthesia, and his reflexes become active again, so on reapplying the inhaler it is very necessary to begin with a weak vapor ; a strong one, by causing holding of breath, etc., would bring back all the rigidity in a very short time. I have not met with a case yet which failed to go under completely on this second attempt, but necessarily the time taken to get one of these patients under is much longer than in an ordinary case.

With regard to the after-effects of ether, there are only two worth con-



sidering. The first is vomiting. In comparing the vomiting that takes place after ether with that of chloroform, so far as I have been able to observe, there is very little difference between the two. More patients vomit after ether than after chloroform, but the ether vomiting generally passes off more quickly. That long-continued vomiting, going on into the second or third day, which now and then follows chloroform, is very rare after ether.

Now we come to the chief objection to ether as an anæsthetic ; viz., that it sometimes produces affections of the air passages ; were it not for the possibility that ether may indirectly cause death in this way, chloroform would have been doomed long ago. Unfortunately, it is impossible to speak definitely about this point, because there may be other causes to produce these troubles at the time of an operation besides the ether. I have made enquiries on this subject from those of experience, and the general opinion is that chest affections resulting from ether are extremely rare. Dr Hewitt, in dealing with this subject, says : " There has undoubtedly been gross exaggeration." My own experience is a little interesting. In 1,600 administrations of ether to patients of all ages, from six weeks up to eighty years (many of them, too, were in long operations lasting two or three hours), I have met with one patient who had some bronchitis after. This was a woman aged twenty-three, who, however, made a good recovery. The anæsthetic received all the blame ; but I have also had a case in which bronchitis followed an operation in which chloroform was the anæsthetic. In this case, however, the bronchitis was looked upon as a sort of coincidence, or, perhaps, due to the exposure of the patient during the operation (one can make a very good guess as to what would have been thought if ether had been used in this instance). One other case I have met with gives a good illustration of how easy it is to blame ether for what it does not deserve. It was a child six years old. Its nurse had not noticed anything the matter with it, and there was nothing definitely wrong with the chest. I used A.C.E. mixture, and in going under the child coughed several times, which made the operator remark " the ether was making the child cough a good deal." For some days afterwards the cough was very troublesome, and was still supposed to be due to the " irritation of the ether " ; but on the sixth day after the operation the child developed a characteristic " whoop " with its cough, and after this it went through the ordinary course of whooping cough. Ether has been given at this hospital, by others, many hundred times, without there being any other case in which it was suspected to have caused any chest trouble.

From such experience as I have had of these two anæsthetics, I cannot help thinking that a patient is in a much safer condition under ether than under chloroform. With ether, so long as the patient is kept suffi-

ciently under to prevent holding of breath, vomiting, etc., there is no trouble, and one can depend upon having a good warning if the patient is not quite satisfactory. Up to the present time, no patient under ether has ever given me the least anxiety. I cannot say this of chloroform. Sometimes, with a cause such as putting a gag into the mouth, or placing the strap of Clover's crutch round the back of the neck, and sometimes without any obvious reason, I have had patients who were in a condition of considerable danger. Because of this, I now make a rule of always using ether, unless there is some reason for its contraindication.

Sir B. W. Richardson, in a recent article on chloroform deaths, writes: "There are certain persons, say about 1 in 3,000, who at all times are ready to die." He has designated them "the morituri," and says they are the common victims of chloroform. If this is the real explanation of these deaths, it is one more reason why ether should be used, because whilst chloroform is constantly finding out these cases ether scarcely ever does so. If, as statistics often show, in 10,000 administrations of chloroform four such deaths occur, and in the same number of ether cases no such accident happens, there must be some very important difference between these two drugs.

I think we have not to look far to find the reason of the greater safety of ether. The full-bounding pulse of ether anæsthesia shows how much the circulatory system is stimulated by it, and the rapid and deep character of the breathing proves the same influence on the respiratory organs. So, if instead of using an anæsthetic, which has a tendency to depress both the respiration and the circulation (as chloroform has), we employ one that has a directly stimulating effect, we are much more likely to tide these "morituri" over their operations.—*The Bristol Medico-Chirurgical Journal*.

## THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF CARDIAC DISEASE AND GOUT.

BY T. LAUDER BRUNTON, M.D., F.R.C.P., F.R.S.

**A**N irritable temper is a great misfortune, not only to its possessor, but to his friends and acquaintances. It may be natural or acquired, permanent or temporary. In many people an irritable temper is hereditary, but it may be brought very much under control by constant effort; while, in others, a temper which was not originally bad may become excessively irritable from lack of control, and the habit of yielding to it on slight provocation. But the temper may become irritable from various physical conditions, such as continued ill-health; or it may become temporarily irritable, as in gouty people shortly before an attack of gout. Not infrequently the explosions of temper which occur on very slight provocation are really due to the irritation produced by an accumulation of small irritations, bodily or mental, which have been gradually working up the patient into a state of excitement, and this feeling vents itself in an explosion quite out of proportion to the irritation which has simply let it loose, but has not really produced it. Thus, an unfortunate clerk or office-boy may be roundly abused for some very slight slip on his part, while the wrath poured out by his principal is really due to business worries or personal annoyances altogether unconnected with the subordinate's fault.

Continuous physical discomfort likewise tends to cause an accumulation of irritability, which finally finds vent in an explosion of temper, and an angry person sometimes blames himself for a moral wrong when he is really suffering from physical disorder.

The late Dr. Milner Fothergill used to tell the story of a very irritable old lady who frequently retired to her own room to pray for grace to control her temper, when what she needed, in Dr. Fothergill's opinion, was a dose of potash to relieve her gout.

In some gouty people twenty grains of bicarbonate of potash with ten or twenty of bromide of potassium, taken when the feeling of irritability comes on, frequently soothes it, and it has the further effect of lessening



the worry even in those who are not irritable. If this "temper powder," as I am accustomed to call it, be taken when some irritating occurrence takes place, or some depressing news is heard, it appears to take away the sting of either, so that, in place of being much worried and unable to turn his attention to other things, the person feels as if he had slept over the bad news, or the worry, and is able to obtain relief by turning his attention to something else.

Irritability of temper does not occur in all cases of cardiac disease, but it is by no means an infrequent symptom. The late Mr. Mark Morris, steward of St. Bartholomew's Hospital, one of the acutest observers that I ever came across, told me that when a patient came down to the office at eleven o'clock at night, and insisted on his immediate discharge from the hospital, he knew that it was a case of cardiac disorder.

Some time ago, a little girl, the daughter of a clergyman, began to show symptoms of unwonted irritability of temper. She was peevish, fretful, and quarrelled with her brothers and sisters. This was looked upon as sinful, and the child was reproved or punished accordingly, until one day a doctor, who was a friend of the family, happened to put his ear to her chest and discovered that she was suffering from severe mitral regurgitation, with dilated heart. In a paper published in *The Practitioner* in February, 1894, I mentioned that unwonted irritability of temper was sometimes the precursor of a headache, and in that paper I described the beneficial action of bromide of potassium and salicylate of soda in relieving headache. It occurred to me that in a case of heart disease the irritability might be relieved by the use of these drugs, and I have lately been trying them with a considerable amount of success. The subjective feelings of the patients were improved, and while they had previously denied any improvement under the use of digitalis and other cardiac remedies, even although this had improved their objective condition, they acknowledged, after a few doses of bromide and salicylate, that they felt better. The mode of action of the bromide is readily enough understood, as it is a simple sedative to the nerve centres. The mode of action of salicylate is not so clear, although the admirable researches of Dr. Haig seem to point to its action indirectly by the removal of uric acid.

Lessened irritability of temper is useful not only to the patient, but to his friends, and it is sometimes easier to treat patients by giving physic to their friends than by giving it to themselves, and frequently the other members of a family, friends, or of society have their appetites spoilt, their digestion impaired, and their pleasure in life destroyed by the irritability of one or two individuals, and anything that will lessen this irritability will do more to improve the health of the others than any amount of drugs can do themselves.—*The Practitioner* (English).

# Progress of Medicine.

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## MEDICINE

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### PHYSIOLOGICAL ALBUMINURIA.

Zeehuissek, of Amsterdam, reaches the following conclusions after examining the urine of 144 supposedly healthy individuals (*Centralblatt für Innere Medizin*, Jan. 11, 1896). His examinations were made from the standpoint of the clinician, and only that substance was regarded as albumin that was coagulable through heat:

(1) Many cases of albuminuria in young people (5 per cent. in the 144 cases) are caused by affections of the renal parenchyma.

(2) In another series of cases the albuminuria in the young is of extra-renal origin, *i.e.*, accidental (red blood corpuscles, leucocytes, spermatozoa, etc.).

(3) Functional albuminuria was not observed in the 144 cases examined.

(4) In the persons examined, no trace of a "physiological albuminuria" was discovered. (In 71.5 per cent. of the 144 cases the most delicate reagents failed to disclose the faintest trace of albumin.)—*Medicine*.

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### OXYGEN AFTER ETHER.

Dr. Theophilus Parvin writes in the *Medical and Surgical Reporter*, April 4, 1896, on the use of oxygen after ether. He says that, having observed the practice of Dr. Landau, of Berlin, who has his patients inhale pure oxygen after the ether has been withdrawn, he is convinced.

that the practice is a most useful and valuable one. He says the immediate effects of inhaling are : the dusky hue of the face disappears, and the pulse becomes fuller and slower ; there is also a more rapid recovery of consciousness. On the day subsequent to the operation he several times visited the patients at the physician's request, asking them as to the freedom from vomiting and pain, and the invariable reply was that they had neither. Some cases treated in Philadelphia made similar statements in regard to their experience of its effect.—*Medicine*.

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#### ANIMAL LIFE WITHOUT BACTERIA IN THE INTESTINAL CANAL.

Two communications have recently appeared which demonstrate the fallacy of the idea that bacteria are essential to the proper digestion of foods in the stomach and intestine.

G. Nuttall and H. Thierfelder (*Ztschr. fur Physiolog. Chemie*, bd. xxi., hefte 2-3) have described some exceedingly interesting experiments upon guinea-pigs. The young pigs were removed by Cæsarean section, with all aseptic precautions, and placed in a sterile case, which was protected perfectly from contamination from without. They were then fed upon sterile milk, and the cage was ventilated with air previously freed from all bacteria. Eight days after birth the animals were removed from the apparatus, killed, and examined with all antiseptic precautions. The microscopic examination of the intestinal contents in stained and unstained preparations showed an entire absence of bacteria. All roll-cultures, both aërobic and anaërobic, remained sterile—not a single colony was observed. The authors conclude that the presence of bacteria in the intestinal canal is not necessary for the life of guinea-pigs; nor for other animals or man, at least not so long as the nutriment is purely animal.

Nencki (*Vratch*, No. 7, 1896) also tries to prove that the action of micro-organisms is unnecessary for the normal process of digestion. He repeated the experiments above related, and concludes that micro-organisms in food are only hurtful, and not in any way beneficial.

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#### THE CAUSE AND TREATMENT OF FLATULENCE.

Stephen McKenzie, in *The Practitioner* for July, 1895, gives a practical discussion of this subject. He states that a certain amount of air is swallowed in the process of mastication and deglutition, but this has never produced any of the phenomena associated with flatulence. This condition is also attributed to fermentation occurring in the stomach, but he does not believe the gas of flatulence is the result of food fermentation, for fermentative processes are too slow for the rapid development of the flatulence observed in dyspepsia.



Sir William Roberts has shown that a certain amount of flatulence may occur in acid dyspepsia through the action of an acid mucus upon alkaline saliva swallowed with the food ; but this is certainly a rare and minor cause in the production of gas. The regurgitation of carbonic acid gas from the duodenum may sometimes occur, and cause a flatulent distension of the stomach, but this is also a rare phenomenon, and only occurs when the gastric juice is hyperacid.

The writer, after discussing other theories, concludes that flatulent dyspepsia is due to a lack of gastric tonicity. In other words, the wall of the stomach being weak, flabby, and lacking in tone, suddenly dilates, and a volume of gas, which was before somewhat compressed, expands and fills out the enlarged viscus. The gas does not increase in quantity in the stomach, but only in volume. Associated with this gastric atony and perhaps dilatation, there is often a slight catarrhal condition of the stomach, which lessens the power of normal gastric digestion, and helps also to weaken the walls of the stomach.

The most important thing in the treatment of flatulent dyspepsia is to use remedies which will increase the nervous vigor ; hence tonics, and especially nerve tonics, are of the greatest importance. Nux vomica and strychnine should be placed at the head of the list. When there is gastritis associated with flatulent dyspepsia, with a coated tongue, the author gives bicarbonate of soda, strychnine, and spirit of chloroform, dissolved in a bitter infusion of calumbo or gentian—two ounces three times a day, between meals. If pain is associated with the flatulence, bismuth is added to the mixture, or a pill containing carbolic acid, valerianate of zinc and alum, is given. The compound asafoetida pill and the extract of belladonna are sometimes useful. In cases where pain is located lower in the bowels, Indian hemp, in doses of one-third of a grain, often answers better than any other remedy. For the violent spasmodic attacks which those sufferers often have associated with distension of the stomach and intestines, a mixture is given composed of equal parts of spirit of cajuput, aromatic spirit of ammonia, and spirit of chloroform ; a teaspoonful in a wineglass of water every half or quarter of an hour.

The writer does not believe in the use of charcoal in flatulence, nor does he place great stress on the value of bismuth. The purpose of his paper is, he says, to urge the importance of tonics and antispasmodics as the rational and effective treatment of flatulence by improving the muscular tone of the stomach.—*Medicine*.

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#### RELAPSES IN SCARLET FEVER.

Dr. A. Griffith (*Medical Quarterly*, October, 1895) states that there is a proneness, during convalescence, to a return of the scarlatiniform rash

when the temperature of the body rises from any cause, and that these cases should not be mistaken for true relapses of scarlatina. Out of about two thousand cases admitted into the Fever Hospital of Nottingham "there were fourteen who have suffered from what we consider as second attacks of fever." After a brief description of these cases, Dr. Griffith concludes as follows :

If our argument is accepted, and these later rashes are to be explained as we have indicated (and the experience of other large isolation hospitals agrees, we think, with ours), the question arises whether the illness is due to auto-infection, being properly termed a "relapse," or "recrudescence," or whether it depends on the presence of other patients in the same ward, some of whom may have fever of a more virulent character.

The experience of medical men in private practice should help us as to the occurrence of relapses in scarlet fever patients nursed singly at home. Meanwhile, it is not difficult to imagine that in a ward containing twelve or twenty patients, even with two thousand cubic feet of air space each, the amount of infection is very large, the virulence being possibly increased by aggregation, as well as by the uniform temperature of about 60° F., nor to suppose that those who have had mild attacks from a small dose of poison in the first place, rather than from their insusceptibility, may be insufficiently protected against a larger dose of a more virulent infection.

If this is the correct explanation it would point to the inadvisability of aggregating fever patients in large wards, and still more to the fault of the usual plan of placing mild and medium, if not severe, cases in the same wards and in the hands of the same nurses. It is to be hoped that as the experience of isolation hospitals becomes more complete, and the facts gained in them are collected and compared, we may be able to come to some conclusion on a point of such practical importance.

#### THYROID EXTRACT IN GOITRE.

Before the Berlin Medical Society Dr. Stabel gave the results of his experiments, in Professor von Bergmann's clinic, in twenty-six cases of goitre treated by thyroid medication. These results agree with those reported from other countries, and are entirely favorable. The best effects were obtained by the use of the fresh gland, and Stabel believes that the tablets are not to be recommended, as he noticed bad effects from their use in several instances. He reports the case of one man, fifty years old and quite obese, who took a large quantity of the tablets and who died several days after from severe mental symptoms. Post-mortem examination showed acute œdema of the brain, probably following thyroidin-poisoning. In two other cases mental alienation followed the use of the

tablets. Ewald stated, in the discussion, that he had obtained better results with the tablets than with the fresh gland, observing the most remarkable effects in young chlorotic girls suffering from parenchymatous goitre. Complete recovery, however, did not take place. He had noted but slight symptoms of thyroidism, as moderate albuminuria with casts, disappearing as soon as the treatment was suppressed. Mendel obtained no improvement in ten cases in which he had tried the tablets. He was obliged to abandon the treatment on account of the palpitation and emaciation which it caused. He did not regard it as suitable for cases of Basedow's disease, in which there is a tendency towards emaciation. Senator also stated that he had not met with success by the method, which could only be expected to aggravate the symptoms of Basedow's disease, if the latter depend on an exaggerated function of the thyroid gland.—*Universal Medical Journal*.

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#### DIETING IN DYSPEPSIA.

Dr. Balfour, in his work on "The Senile Heart," gives the following rules for dieting, which are applicable in many cases of dyspepsia, as well as in those suffering from weak heart:

- (1) There must never be less than five hours between each meal.
  - (2) No solid food is ever to be taken between meals.
  - (3) All those with weak hearts should have their principal meal in the middle of the day.
  - (4) All those with weak hearts should have their meals as dry as possible.
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#### INTESTINAL FERMENTATION.

In a study of the various foods as to their putrefactive tendencies, Gilbert and Dominici are quoted as experimenting with milk upon a healthy man. Two and five-tenths litres of milk were given daily for five days. But before beginning with the milk diet the fæces showed 67,000 bacteria per milligram. On the second day of the milk diet the fæces showed 14,000 bacteria; on the fifth day, 2,500. By the use of sterilized milk the number was still more reduced. From this the inference is drawn that milk is the ideal diet in typhoid fever and other enteric diseases, it being less fermentative than meat and other albuminous materials.—*Texas Medical News*.



# OBSTETRICS

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## RUPTURED ECTOPIC GESTATION (?)

At the meeting of the Philadelphia Obstetrical Society Dr. M. Price reported the case because of its interest in the direction of abdominal surgery. A diagnosis had been made before I reached the patient. It seemed to be a clear extra-uterine pregnancy. Two months had passed without periods. I could not get any previous history of trauma. If I had known before what was told me after the operation, I should have had a perfectly clear idea of what I had to deal with.

She had a swooning spell with all the symptoms of hæmorrhage on Saturday night ; Sunday morning this occurred twice ; absolutely pulseless ; could not count at wrist ; very little at neck. I found a large mass in Douglas' cul-de-sac ; the patient's weight at least one hundred and forty to one hundred and fifty pounds. The only absent symptom was the want of prominence of the abdomen. Nothing really prominent either to show that there was mere fluid or a collection of blood in the abdomen at all.

I recommended at once section for her relief, and told the husband we had a case of extra-uterine pregnancy to deal with. There was no question in my mind but that blood was in the abdomen. On opening her, I dropped my fingers into the abdomen and found a pregnant uterus, and, going behind the uterus, I found a small tumor in Douglas' pouch, surrounded with a film of adhesions, with some inflammation or peritonitis. I ligated and put her to bed. I thought the specimen might be extra-uterine, but found it to be a sloughing dermoid, a little dermoid which had undoubtedly been injured. Two weeks before she had been thrown from a carriage and had a number of swooning spells.

She made a beautiful recovery, without any bad symptoms whatever, and the pregnancy is going on to term nicely. The case so closely simulated rupture of extrauterine pregnancy, with all the accompanying symptoms in regard to weak pulse, tumor masked behind the uterus, that I had no doubt it was one.—*Amer. Gyn. and Obst. Journal.*

#### PUERPERAL SELF-INFECTION.

Dr. Chas. Jewett, in a paper read before the New York State Medical Society on this subject, concludes as follows:

There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

All childbed infection in women previously healthy is by contact.

Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.

Its general adoption in private practice could scarcely fail to be mischievous.

In healthy puerperæ delivered aseptically post-partum douching is also contraindicated.

These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded.

A purulent vaginal secretion exposes the woman to puerperal infection.

In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.

Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

In case of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor.

Sterilized glycerin or other suitable material may be used to restore the proper lubrication of the birth canal.

The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily for several days during the last weeks of pregnancy.

It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge.

Clinically, the amount of the discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces, usually furnish a sufficient guide to the treatment.

Probable unclean contact within twenty-four or forty-eight hours before labor is an indication for prophylactic disinfection.—*American Gynecological and Obstetrical Journal.*

## PUERPERAL SEPSIS.

Is hysterectomy for puerperal infection justifiable? R. R. Kime. Puerperal infection is of two general varieties, viz.: (1) Putrid infection, or sapræmia. (2) Septic infection, or septicæmia. The first is a local infection due to decomposition of the uterine contents by putrefactive bacteria only, without migration of the bacilli, not contagious, non-progressive by invasion, due to absorption of ptomaines, not inoculable. In sapræmia remove the putrid material from the uterine cavity, irrigate, disinfect, drain, and ninety-nine per cent. of the cases will recover. Hysterectomy would relieve these cases, but it would be criminal to sacrifice the generative organs when such cases can be treated more successfully and with fewer deaths by less heroic measures. The second class is due to germ development, their rapid migration and invasion of new tissue, even entering the general circulation; if at first local it soon becomes constitutional, highly infectious, and inoculable from case to case. The septic germs soon extend beyond the endometrium, invading its muscular structures, the lymphatics, the blood vessels, etc., and cannot be removed by ordinary surgical measures, and it is very doubtful if hysterectomy could completely remove the infected tissues in severe cases. If any foreign substance is in the uterus remove it with the forceps, wounding the endometrium as little as possible; irrigate the uterine cavity thoroughly with an antiseptic solution, and introduce a drainage tube of as large a size as the uterus will admit. Repeat irrigations and cleansing of the drainage tube at least once or twice in twenty-four hours. Give salines and calomel if needed, with systematic use of quinine, strychnine, tonics, and good nourishing diet. This treatment, properly carried out, will save more lives than the combined use of the curette, tampon, and hysterectomy. Hysterectomy has a limited field of usefulness in septic metritis, multiple abscesses in the uterine wall, and thrombo-phlebitis, if it is possible to be positive in the diagnosis; but in doubtful cases drainage is to be preferred.—*American Journal of Obstetrics*.

## PERIPHERAL NEURITIS IN PREGNANCY.

Dr. George Elder read a paper on this subject before the Edinburgh Obstetrical Society. He had recently seen two cases, both in multiparæ; both came on about the sixth month. The symptoms began with tingling and shooting paræsthesiæ, which gradually increased until the shooting pains and feelings of pins and needles were very severe and disturbed health. In both they were chiefly in the hands, but in one of the cases also in the feet. Sensation was affected in both cases to some extent, but there was little or no paresis, although, owing to loss of sensation, no fine work requiring careful co-ordination could be done by the hands. In



neither case could any other cause of neuritis be discovered—alcohol, diphtheria, influenza, pneumonia, albuminuria, glycosuria, typhoid, lead, etc., being excluded. Both began to recover immediately after delivery, and recovery was pretty rapid—in one case in three or four weeks, in the other in three to four months. There could be no doubt, he thought, that the gravid state was the exciting cause of the neuritis. The number of cases of peripheral neuritis, evidently due to pregnancy, reported were very few (he could only find eight cases in all); and nearly all of these had been preceded by severe vomiting, and all had been very severe cases. He was inclined to believe that the cases of peripheral neuritis in pregnancy of a mild type must be very much more common than one would expect from the number of cases reported. That vomiting was not necessary to produce the condition his cases showed, and it was just possible that the vomiting might be due to the same cause as the neuritis, and to be only a concomitant symptom. The neuritis was evidently toxæmic in origin, though there was no evidence as to what the exact nature of the poison was. Some recent writers were of opinion that some of the cases of peripheral neuritis found during the puerperium had really commenced during pregnancy. If the symptoms got very severe it would be one's duty to terminate the labor, as after delivery recovery set in.—*British Medical Journal*.

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#### PUERPERAL FEVER TREATED BY ANTI-STREPTOCOCCUS SERUM.

Mrs. G. A., aged 23, a primipara, was delivered of a large male child on March 19, 1896, at 5.45 a.m. Her labor was normal, the presentation cranial, L.O.A. throughout. More Madden's short straight forceps was applied to control and aid the passage of the head over the perinæum, which escaped rupture. Soap and hot water, the use of the nail-brush, bichloride of mercury for the hands, and creolin for the instruments and as a lubricant, comprise the antiseptic precautions taken. The after-treatment, however, was such as is ordinarily carried out in the homes of the working class.

For some days all went well, and the morning and evening temperatures were normal. On visiting her on March 26 I found her condition unsatisfactory, and was informed that she had not felt so well on the previous day, when she had shivered. Her condition resembled very bad influenza. There was no abdominal pain or tenderness, and no fœtor of the lochia from first to last.

That evening she had a douche of bichloride of mercury, 1 in 1,000, and this was repeated twice daily. Sulphate of quinine, gr. v., in hydrobromic acid was given every four hours. The temperature, 103° to 104.5° F., did not yield to treatment.

On March 29 I was compelled to stop the quinine on account of cinchonism. Biniiodide of mercury, gr.  $\frac{1}{12}$ , every four hours was substituted, and the intrauterine douching with this same antiseptic continued three times daily. The temperature was  $105^{\circ}$ , and the pulse  $120^{\circ}$  F.

On March 30 Dr. W. L. Reid saw the patient at 11 a.m., and agreed as to the diagnosis. On examination the uterus and appendages were normal. There was a slight transverse laceration on the posterior vaginal wall one inch from the vulva—the probable site of infection. The temperature was  $102^{\circ}$  F., and the pulse 98. From Mr. D. Watson, chemist, Govanhill, I had that morning procured a 20 c.cm. phial of antistreptococcus serum (Burroughs, Wellcome & Co.), “guaranteed in good condition and free from microbes” by the signature “T. J. Bokenham,” dated March 4, 1896; and, with Dr. Reid’s approval, of this serum 4 c.cm. were injected in the evening at 10 p.m., when the pulse was 114, and the temperature  $104.5^{\circ}$  F.

On the following morning, March 31, the temperature was  $100^{\circ}$  F., the pulse 96. The patient had slept soundly all night, and was very much brighter, feeling happier and stronger. None of the biniiodide was given through the night. Tincture of nux vomica *im m* 20 doses three times a day was now ordered instead, as recommended by Dr. Reid. After this her pulse and temperature remained practically normal, and her recovery was uninterrupted.

The beneficial effect of the serum was very marked; the change for the better was so abrupt that it resembled very much the crisis of a lobar pneumonia. On the fifth day after the injection she sat up in an armchair for an hour to have her bed made, and by the tenth day ventured to go outside and take a walk. No bad symptom, locally or generally, followed the use of the serum; its influence was only for good.—*Henry L. G. Leask, M.D., Glasgow, in British Medical Journal.*

## THERAPEUTICS

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### ANIMAL EXTRACTS.

Dr. Horatio C. Wood presents a very just *résumé* of the present condition of this subject. After stating that there is neither reason nor science, nor yet good clinical observation in support of the value of any of the drugs used by isopaths, he gives a very scientific presentation of the present views in regard to the therapeutic use of these substances. The ductless glands form some substances which have relations with all the tissues, and which modify everywhere protoplasmic movements. We have a firm, scientific foundation for the use of thyroid extract in myxœdema. In hypertrophy of cicatricial tissues, simple goitre, and obesity, it should be tried; in exophthalmic goitre it does harm. Splenic extract has apparently cured one, and much benefited two others, of the last-named conditions. In Addison's disease sometimes benefit is obtained from the use of glycerin extract of suprarenal capsule. There has been no great success from the use of extracts of bone-marrow and of the spleen in leucocythæmia. There is sufficient evidence to warrant the use of medullary glycerine in cases of severe anæmia. The antitoxins have been used in tetanus, diphtheria, erysipelas, and in other infections. In one case of tetanus, which had a fair chance of recovery under the older treatment, death took place from exhaustion, with a rapid rise of temperature, suggesting that this result was referable to the antitoxin. As for diphtheria, the value of the treatment has been sufficiently shown, so that every conscientious physician should use this just as much as he would quinine in malaria. Of course a Klebs-Loeffler bacillus antitoxin is useless against a streptococcus toxin, and in many (and perhaps most) cases death results from streptococcus infection. Theoretically, then, the two antitoxins



should be used in most cases of advanced diphtheria. Marmorek has reported the use of the streptococcus antitoxin, and on the whole the reports of Pozzi, Dieulafoy, Kelly, Sevestre, Cuffer, and Bar have been favorable. In any case of septic infection a cultivation is rarely necessary to be made, for the clinical features, in most cases, are sufficient to distinguish the cases. An infection which is localized, produces freely of pus, has but little tendency to run, is usually due to a streptococcus; one which produces serous or ichorous, rather than purulent exudation, and rapidly courses along the lymphatics, or gives rise to erysipeloid symptoms, is the result of the labors of the streptococcus. —*University Medical Magazine*.

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#### BROMOFORM IN PERTUSSIS.

Marfan (*Revue Mensuelle des Maladies de l'Enfance*, April, 1896, p. 177) contributes favorable testimony for this newest of the specifics in whooping cough, from an experience of forty cases. He believes it to be superior to antipyrine or belladonna. The formula that he employs is as follows: Bromoform, 48 drops; oil of sweet almonds, 20 grammes; gum adragante, 2 grammes; gum arabic, 4 grammes; cherry-laurel water, 4 grammes; and water to make 120 c.c. Mix first the bromoform and oil and shake vigorously; then add the other ingredients. A coffee-spoonful contains two drops of bromoform. For a child of five years of age he prescribes as a daily dose four drops for each year of the age; from five to ten years the beginning dose is twenty drops daily. These doses should be gradually increased two to four drops a day until they are doubled. Under six months the initial daily dose should be two to three drops; from six months to one year, from three to four drops. In all cases the daily dose should be given in three portions. While the results of this treatment are exceedingly satisfactory, the author has failed to observe shortening of the duration of the paroxysmal period, contrary to the experience of Stepp.—*American Journal of the Medical Sciences*.

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#### THE ETIOLOGY AND TREATMENT OF OZÆNA.

Belfanti and DellaVedova gave the results of their researches on this subject, carried out at the institute of the Serum therapy, in Milan. They regard the disease as undoubtedly of bacterial origin, and due to a bacillus identical with that of Loeffler in form and characteristics, but differing from it in a great attenuation of virulence, causing only œdemas and moist gangrene at the site of the injections in guinea-pigs. The micro-organism is found in the exudate in ozæna, in the depth and on the surface of the diseased mucous membrane, and gives rise to a chemical

change in the secretion and to atrophy of the mucous membrane and the bone.

In view of these facts, the authors decided to employ the antidiphtheritic serum in the treatment of the disease, and they give the details of 32 cases, 16 of which were cured, 7 almost cured, 5 improved, and 4 showing slow improvement. The uncured cases are still under treatment, and the authors look for successful results in these also. The method of treatment consisted in making injections of 10 cubic centimetres ( $2\frac{1}{2}$  fluid drachms) of antitoxin every two days, or every day if possible, until about thirty injections had been given, the number varying according to the age, duration of the disease, and local and general reaction of the remedy. The changes produced were: (1) A turgescence and congestion of the diseased mucous membrane; (2) disappearance of the characteristic odor; (3) appearance of fluid exudate; and (4) disappearance of green crusts. These alterations varied as to the time of their manifestation and their intensity. The complications produced during the treatment were neither severe nor dangerous, though the authors recommend suspending the injections, until they disappear.

Bozzolo reported two cases treated by him with the antitoxin; the first, a girl thirteen years of age, with chronic ozæna of an exceedingly fetid character. The odor entirely disappeared after the fourth injection, but on suspension of the treatment it returned after some time. Three injections were then made and the odor again disappeared. Multiple subcutaneous hæmorrhages made it necessary to abandon the treatment. Soon after the girl developed measles. At the time of report the condition of the nasal cavities was excellent. The second case was that of a woman of forty-three years, in whom the bad smell disappeared after the fifth injection of serum. She was still under treatment at the time of report.

Gradenigo stated that he had treated sixteen cases of ozæna with the serum. In five of these the bacteriological diagnosis had been made by Belfanti. In all there had been an improvement, though the number of injections had not as yet been sufficient to cause complete cure. One case of purulent ozæna had been particularly benefited. He had noted a specific, elective action of the serum upon the diseased mucous membrane.—*La Settimana medica*, April 4, 1896.—*Universal Medical Journal*.

# SURGERY

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## THE FORMALIN TREATMENT OF WOUNDS.

If a watery solution of gelatin be allowed to dry in formalin vapor, the gelatin loses altogether its customary characteristics. It is no longer affected by hot or cold water, nor by steam, nor by acids, nor alkalies; and the formalin which has entered into combination with it is chemically inactive. Experiments upon animals, however, proves that by the action of the living tissues the combination is broken up and formalin set free. Further experiments upon pigeons and dogs revealed the fact that if formalin gelatin is ground to a fine powder, mixed with colonies of bacteria, (staphylococci, streptococci, chicken cholera) and introduced into the animal, the germs are unable to grow and the wounds heal without reaction.

This result is apparently due to the action of the freed formalin, an action which continues for some time—several hours probably—and therein lies an advantage of this new material over all the old antiseptic agents. Schleich (*Therapeut. Monatsch.*, February, 1896) asserts that with the help of this material every acute suppuration can be stopped in twenty-four hours, and every wound can be made to heal aseptically without further trouble. He has proved this by its use in 120 cases of acute suppuration, 93 aseptic wounds, 4 compound fractures, and 2 deep wounds of the scalp. In his experiments the principles of aseptic surgery were in all respects observed, except as to the wounds, which were only mechanically cleansed and thoroughly rubbed with the powder. In every case suppuration was stopped in twenty-four hours, and even the compound fractures healed without any fever. In fresh wounds the powder made with the blood a firm aseptic scab.



In order to be of service the powder has to be brought into contact with sound or inflamed tissue. In the presence of necrotic masses, or in the specific inflammations of syphilis and tuberculosis, it has very little effect. In order to produce a continuous supply of formalin vapor for the treatment of ulcers, etc., it is possible to digest the formalin by a pepsin-hydrochloric acid solution. The formalin-gelatin powder is first dusted on the wound, and then covered with a compress wet in a watery solution containing five per cent. of pepsin and three per cent of hydrochloric acid.

The powder is made by drying 500 grams of purified and dissolved gelatin in the vapor of 25 drops of formalin. The gelatin is then rubbed to a powder and preserved in the presence of a single drop of formalin solution.—*Medical News*.

## PÆDIATRICS AND ORTHOPÆDICS

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### TUBERCLE OF THE FEMALE GENITALS IN CHILDREN.

Eight cases illustrating this condition have been collected by Maas (*Archiv. f. Gynak.*, vol. xii., part 2, 1896). In the first case the Fallopian tubes and ovaries were diseased. Infection probably originated in the umbilicus, as tuberculous granulations were detected running from it over the peritoneum. The second was an instance of tuberculous disease of the intestines. Infection of the ovaries had occurred, the disease passing from the rectum. In the third, the genital disease was secondary to pulmonary phthisis. A fourth case was a true example of primary tubercle of the genitals. The fifth was identical in course and character with the second. The sixth was of special interest. A child, aged thirteen months, had vulvitis and tuberculous disease of the genitals. The mother was phthisical, and direct contamination must have taken place. In the seventh the father was tuberculous, and, as in the sixth, the disease began with vulvitis. The eighth patient had tuberculous pneumonia after measles, and a vaginal affection, also clearly tuberculous. The parents were healthy. The primary seat of disease remained uncertain. The tubercle may have been carried from the lungs to the vulva by the lymphatics, or more likely the child had touched the vulva with fingers soiled with sputum.

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### TREATMENT OF INFANTILE BRONCHITIS.

In *The Medical Record* (1896, xlix., 636), Renaut, of Lyons, advocates the employment of warm baths in the treatment of bronchitis in infants, and claims that by these means extension of the disease to the capillary bronchioles can be almost surely prevented. Whenever the rectal temperature rises to 102° F. the child is placed for five minutes in a bath of 100° F., the head being covered with a folded handkerchief. If there

are any symptoms of cerebral congestion, a stream of water the temperature of the room is poured on the head. A little champagne, or brandy and water, may be given while the child is in the bath. When taken out, he is quickly dried with warm towels and put back to bed. Frequently after the third or fourth bath, the fever falls, the râles diminish, and the affection loses its threatening character.

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#### CHOLERA INFANTUM.

The following brief outline of treatment in this disease appears in the July number of *Pædiatrics*. Cholera infantum is the result of a profound and rapid poisoning from absorption of toxines produced in the intestinal tract, usually from the fermentation of food. Therefore the indications for treatment are not opiates, but the rapid elimination of these poisons by saline cathartics, abundance of pure water, washing the stomach, and high and frequent irrigations of the bowels with such stimulants as will enable the patient to overcome the poison already absorbed. The best stimulants are whisky, camphor, and musk. Whisky should always be diluted; camphor (one-fourth to two grains every hour) may be taken with glycerine and suspended in mucilage; and musk (one grain every half hour) can be suspended in mucilage. Jacobi recommends in threatening cases of heart failure strong coffee, hot or iced, according to circumstances; or the injection into the bowel through a long flexible tube of hot water with some alcohol, and one or more drops of tincture of opium.

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#### SIMPLE DIARRHŒA.

The indications are to first remove by purgatives the irritating and decomposing contents of the intestines. This is best done by giving calomel in small doses, say one-tenth of a grain, frequently repeated, or by a full dose of castor oil.

The second indication is to withhold all food which would be likely to undergo fermentation and add to the existing toxæmia. Milk and other foods should be absolutely prohibited. The child should be allowed to take pure water quite freely. Barley water, to which a little white of egg or sugar has been added, may be given, and, later, whey may also be given.

Third. If ptomaines are thought to be present in the lower bowel it would be well to irrigate after each movement of the bowels, using a warm normal salt solution (1 dram. to one quart), about one pint at a time.

Finally, such drugs as retard fermentation, *e.g.*, bismuth subnit., grs. x., every two or three hours; or soda benzoate in four grain doses in water every two hours.—J. Lewis Smith in *Pædiatrics*, July, 1896.



## POLYARTHRITIS IN SCARLET FEVER.

In a paper read before the New York Academy of Medicine Henry N. Berg drew attention to the frequency with which inflammation of joints occurs as a complication of scarlet fever. It seemed, too, to occur more frequently in cases treated in hospitals than in those met with in general practice. Its development was not usually marked by any special rise of temperature, and it most often made its appearance during the stage of desquamation. For clinical purposes this polyarthritis might be divided into four varieties: (1) Cases in which the inflammation of the joints is not accompanied by serous effusion; (2) cases appearing as a simple synovitis; (3) cases in which the arthritis is at first simple, but subsequently becomes purulent; and (4) cases of suppurative arthritis with rapid destruction of the structures of the joint. The late development of this joint complication would seem to point to its being a secondary mixed infection, and from its much greater frequency in hospital practice he was disposed to think that there was a contagious element. While many clinicians looked upon this arthritis as rheumatic, and it had some points of resemblance to rheumatism, it differed from this disease in being more severe, and in not being commonly associated with endocarditis—at least there had been no endocarditis in the cases forming the foundation of this paper. Another reason for believing that this was not rheumatic in its nature was that the salicylates and other anti-rheumatic remedies appeared to exert no beneficial action upon it. Very frequently this scarlatinal arthritis was followed by more or less ankylosis, which, however, in most instances, yielded to proper passive motion and massage.

## THE EFFECT OF PHOSPHORUS ON GROWING BONE.

In *Virchow's Archiv* (Bd. cxliv., 1896) Kissel records a series of experiments with phosphorus carried out on growing dogs. The phosphorus was given in the way usually adopted with children, in oil. He found that the toxic properties are much more pronounced than usually supposed, and that disturbance of digestion during its use, though apparently trivial, may have a fatal termination. Ten centigrammes per kilogramme of body weight caused symptoms of chronic poisoning, with marked atrophic changes where bone had been deposited. Six centigrammes per kilogramme hinders the normal development of bone; 3.3 centigrammes per kilogramme is the largest dose that can be given with perfect safety. In chronic poisoning with small doses there is marked fibrosis of the liver. No dose of phosphorus had any favorable influence on the growing bone.

# PATHOLOGY AND BACTERIOLOGY

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## EXPERIMENTAL AMYLOID DEGENERATION.

N. P. Krawkow, of the Laboratory of General and Experimental Pathology of the Imperial Military Academy of Medicine in St. Petersburg (*Arch. de Méd. Expér. et d'Anat. Pathol.*, tome viii., 1896, p. 106), says that up to the present time the study of amyloid degeneration has been confined to post-mortem specimens in which the different degrees of the degeneration, together with the presence of other lesions, have rendered the stages of the process very indistinct. Experimental work on this subject has never been attempted, which perhaps explains our very limited knowledge of it. A few accidental cases occurring in laboratory animals have been reported, but the degeneration occurred in animals experimented upon with some entirely different object in view.

One of the first cases of this kind was reported by Hirschfeld, who found a diffuse amyloid degeneration occurring in a rabbit dead from the effects of a suppuration lasting six weeks, and caused by the inoculation of pus microbes. The microbes in this case were obtained from a man suffering from caries of the bones, and after whose death the kidneys were found to have undergone an amyloid degeneration. Bouchard and Charrin have described two cases of amyloid degeneration in rabbits subjected to repeated inoculation of the bacillus *pyocyaneus*.

Czerny has produced amyloid degeneration in two dogs by subjecting them to a long-continued aseptic suppuration, produced by repeated inoc-

ulation of turpentine, thereby proving that the amyloid change is altogether independent of bacterial action. He also found in the pus corpuscles and leucocytes of these animals, a substance apparently not glycogen, and giving the characteristic reaction for amyloid material with iodine and sulphuric acid, although failing to give the equally characteristic reactions with anilin stains. Since the presence of the substance accompanied amyloid degeneration, the possibility of its being an early stage of amyloid material which is carried to and stored up in the various organs is strongly suggested. This idea would imply that the amyloid change is an infiltration and not a degeneration.

This form of degeneration is very common in our larger domestic animals, in fowls and pheasants, and especially in the horse, where it occurs frequently in the liver, rendering this organ so soft and friable that the fatal rupture often occurs. In all these animals the degeneration is usually secondary to some chronic infectious or wasting disease.

With this series of cases of amyloid degeneration as a foundation the author has carried on a number of experiments with the object of studying the changes as they occur when their production is under the control of the observer. The animals were subjected to prolonged suppuration produced by repeated inoculations of micrococcus *pyogenes aureus*, this method being chosen as bearing the most direct relation to the common occurrence of amyloid degeneration in man after tuberculosis and syphilis when a mixed infection with the pus microbes has occurred.

Rabbits in good health were chosen and inoculated with constantly increasing quantities of a bouillon culture, beginning at first with  $\frac{1}{2}$  c.c. Soon the animals would reach such a degree of immunity that they would scarcely react to 30 c.c. of a culture, 1 to 2 c.c. of which would have at first killed them. This gradual acquirement of immunity seemed to be the most favorable condition for the appearance of amyloid degeneration, animals succumbing to a few large doses rarely showing the change. The history of a single rabbit, as follows, will be a fair sample of the results obtained in the whole series :

Rabbit No. 1 ; weight, 1556 grammes. Subjected to four inoculations—1 c.c. for the first three times, 5 c.c. for the last. Died in six weeks, much exhausted ; weight of body, 779 grammes. The last week the urine was acid and contained albumin ; stools watery. Spleen shrunken, anæmic, soft, tearing readily, cut surface not showing the characteristic amyloid brilliancy ; microscopic examination showed amyloid degeneration marked in the pulp and in the periphery of the follicles ; giant cells containing amyloid presented marked accumulation of pigment ; lymphoid elements contained no amyloid. Liver atrophied and anæmic ; slight amyloid degeneration of intralobular capillaries ; marked albuminoid degener-



ation of the liver cells. Small intestine: Walls thin, mucous membrane pale; marked amyloid degeneration of the villi and glands of Lieberkühn, principally in the capillaries and connective tissue. Kidneys: Traces of amyloid in *memorana propria* of the convoluted tubules. Suprarenal capsule: Traces of amyloid in medullary substance. No traces of amyloid in the abscess, nor in the muscles of the heart and trunk.

The amyloid material of the rabbits gives all the characteristics of the human amyloid, and when isolated seems to be the same chemically. The microscopic appearance of the organs, however, differs from that of man in the advanced stages. The spleen is generally soft and shrunken, the cut surface does not give the characteristic amyloid brilliancy; the liver resembles more an albuminoid degeneration.

In the animals experimented upon the degeneration seemed to begin in the spleen, often being very advanced here when not found in any other organ. This is apparently true in man as well. In rabbits the degeneration is more marked in the gastro-intestinal canal than in the kidney or liver, the salivary glands seeming to stand next in order to the spleen. The idea that the blood-forming organs are most invaded is not supported by these experiments, for the marrow of the bone, probably the most important of all, was never found amyloid. They, however, showed that it was possible to have an amyloid degeneration localized in a single organ or in a part of that organ, as the follicles of the spleen.

The degeneration was especially observed in the capillaries, arteriole-walls, and connective-tissue elements. The cells of the organs seemed never to be invaded, except those of the spleen. The presence of giant cells in the amyloid spleen is accounted for in different ways. The author is inclined to think that they absorb the amyloid substance as a body foreign and injurious to the organism. This function would imply that the resolution of amyloid material is possible, and although contrary to the general idea as obtained from clinical information, yet there is much to favor the supposition. Amyloid degeneration in various neoplasms has been observed in parts removed by operation, and later it has been found that the remaining material has disappeared. Litter has also found that fragments of amyloid kidneys placed in the abdominal cavity of animals are absorbed, and here giant cells containing amyloid are numerous.

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#### IMMUNITY FROM SMALLPOX.

"Scientific Researches Relating to the Specific Infectious Agent of Smallpox and the Production of Artificial Immunity from this Disease" was the title of an address by George M. Sternberg, Surgeon-General of the United States Army.

The experimental evidence relating to the nature of the specific infectious agent of vaccine and of variola was reviewed ; also that relating to the genetic relation of cowpox, horse-pox, and smallpox ; and that relating to the production of artificial immunity by subcutaneous inoculations with vaccine lymph and by subcutaneous or intravenous injections of blood serum from immune animals.

The following conclusions were presented :

(1) Smallpox, cowpox, and horse-pox are generically related, being different manifestations of the same infectious disease in different genera of animals.

(2) The specific infectious agent of variola and of vaccinia has not been demonstrated. The extended experimental investigations which have been made indicate that it does not belong to the class of micro-organisms known as bacteria.

(3) Various bacteria are commonly found in the lymph from vaccine vesicles, obtained either from bovine animals or from man. Among these are the well-known pus cocci, and these micrococci are probably largely responsible for the erysipelatous inflammation and other unpleasant complications which frequently result from vaccination with such lymph.

(4) Lymph preserved in glycerin after a time becomes sterile, so far as the presence of bacteria is concerned, without losing its specific virulence.

(5) Immunity may be induced by subcutaneous inoculation of vaccine virus without the development of a vaccine vesicle ; and it is probable that the subcutaneous injection of lymph preserved in glycerin would give protection without any of the septic complications so common as a result of vaccination by the usual method.

(6) The blood serum of immune animals contains a substance in solution which destroys the specific virulence of vaccine virus when brought in contact with it.

(7) This substance is not present in sufficient amount to make the blood serum of immune animals available for the production of immunity in man (or for the treatment of variola). But it may perhaps be obtained in a concentrated form by chemical methods, and in that case would be likely to prove useful, and possibly specific, as a therapeutic agent in this disease.

(8) The immunity resulting from the subcutaneous injection of vaccine lymph, like that resulting from vaccination in the usual manner, is gradually developed and is not complete until the eighth day, depending, no doubt, upon a multiplication of the infectious agent in the body of the susceptible animal. On the other hand, the immunity resulting from the transfusion of a large amount of blood serum from an immune animal to

a susceptible animal is an immediate result of such transfusion.—*Medical Record*, May 9, 1896.

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#### HYPOLEUCOCYTOSIS IN ACUTE TUBERCULOSIS.

Warthin (*Medical News*) has studied the blood of two cases of acute general miliary tuberculosis, and found that his frequent estimations of the number of leucocytes confirms the statement of Cabot that the blood does not give us any aid in the diagnosis between typhoid and acute tuberculosis. In both cases there was pronounced hypoleucocytosis.—*University Medical Magazine*.



## Editorials.

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### AN EXPLANATION.

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OUR attention has been called to the fact that a recent article which appeared in *THE PRACTITIONER* relative to the *Dominion Medical Monthly* is so phrased as to be open to misapprehension, and we desire to put ourselves right in this respect. When we said that "advertisers will no longer be deluded by the cry of an official organ," we did not mean to imply that in the past there had been any delusion with regard thereto other than such delusion as might be labored under by those advertisers who might imagine that the connection which that journal formerly had with the Medical Council would make it more valuable as an advertising medium than it would otherwise be.

When we stated that the post-office department had declared that the journal in question was not a legitimate subscription journal, we referred merely to the fact that for the purpose of bringing themselves within the law as enforced by the post-office department, allowing subscription journals to be mailed post free, the publishers of that journal had been forced to alter their title page as formerly used by them, and to state upon the face thereof that their subscription price was \$1 per year.

We regret that our article was so phrased as to make this explanation necessary.

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### THE ONTARIO MEDICAL COLLEGE AND DR. SANGSTER.

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WHEN a man neither means what he says, nor says what he means, it is somewhat difficult to understand him. Dr. Sangster, in his letter to *The Review*, to which we made reference in our last issue, says: "It was thought proper to suspend all further appeals to either the profession or the *public* until after a vigorous and sustained effort had been made to rectify existing abuses *constitutionally*. . . . To this end . . . the executive of the Defence Association consented to forego all aggressive action until after the close of the coun-

cil's session of 1897. If the efforts of the Defence members of the council are as futile in 1897 as they have proved to be in 1895 and 1896, the executive of the association will, in all probability, next July change its phase of expectancy for one of very decided activity. . . . Pending, then, the probable *renewal of hostilities* a year hence, when it would seem that some *startling disclosures* are likely to be given, and some *spicy strictures* made." . . .

In his letter, published in this issue of THE PRACTITIONER, he tells us he means nothing excepting that his party will first appeal constitutionally to the electorate; and, if that fails, will then get the Ontario Legislature. In connection therewith he also gives us an interesting and instructive lecture on our "province" as medical journalists, upon which we are now pondering with, we hope, becoming humility. This new programme is certainly a great improvement on the old one; and we note with pleasure that it contains no threat of an appeal to the public. Let us hope that Dr. Sangster now means what he says, and says what he means.

In *The Review* letter we find the following:

"Question—Have the Defence members of the council paid their so-called back dues?"

"Answer—No. Their arrearage was, and is, in each case deducted by the treasurer from their sessional allowance. To this they had no alternative but submission under protest."

This, we now understand, is not intended to encourage physicians to refuse to pay their assessment dues; it is simply a wail of despair from an unfortunate and injured man who has been compelled to pay a debt.

It may be very creditable and high-minded to endeavor to stir up strife between the "schoolmen" and the general profession, but what good is going to come from it? If those who teach in our medical colleges must needs be attacked, is there any reason why they are not entitled to ordinary courtesy? Would it be too much to ask Dr. Sangster to criticize in a reasonable way any specific acts of the "schoolmen" to which he objects instead of simply and profusely "swearing at large"?

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#### THE DUTIES AND RIGHTS OF A HOSPITAL MEDICAL STAFF.

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THE Board of Management of the Liverpool (England) Lying-in Hospital has recently had a serious conflict with its medical staff. We learn from the *British Medical Journal* that the board endeavored to

enforce a regulation under which each patient when admitted should come under the sole care of the matron-midwife, who would conduct all normal cases of labor, but might send for a member of the medical staff, if, according to her judgment, the case were abnormal. Another of its remarkable rules was that, under no circumstances, could the normal cases be treated as subjects for general observation for the purpose of compiling statistics or literary articles, or for instruction to students. The medical staff refused to submit to such rules, and resigned in a body.

On May 11 a large meeting of the medical profession of Liverpool was held, 215 being in attendance, when strong resolutions were passed approving the action of the staff, and pledging everyone present not to accept office in the hospital and not to render assistance to its officials. The female physicians of the city also supported the stand taken at this meeting. The *Journal* comments on this as a worthy example of unanimity. As a consequence the institution has now no medical staff, and the members of the board are roundly abusing the profession whose members are said to be "utterly regardless of common humanity," and guilty of "wanton cruelty." The *Journal* goes on to say that "these charges of cruelty and want of humanity are the last desperate attempts of the chairman and his friends to distract attention from their own blunders by throwing dust in the eyes of the public."

The *Journal* goes on to say that "the most significant point in the whole matter has been the desire displayed to surround the practice of the hospital with a kind of Chinese wall, from which no statistics and no information for the benefit of humanity should issue, and within which no instruction should be given except to a few aspirant midwifery nurses. This exclusion it has been attempted to justify by assertions that 'experiments' were made in the hospital. When looked into, the 'experiments' were found to consist in certain pelvimeter measurements, with a view of ascertaining what patients were likely to require instrumental help."

The following are the closing sentences of the *Journal* editorial: "The medical men of Liverpool, in fighting their own battle, have also been fighting the battle of the whole profession, and they have increased the value of the services rendered by the splendid example of unanimity which they have given. The conflict is a part of a greater conflict over a wider area—a conflict of which the end is not yet, but which can only be allowed to end in one way. True, the *casus belli* is not always the same; in one place it is the arrogance or false sentimentality of a lay board of management presuming to speak in the name of charity, in another the parsimony and self-seeking of club managers disguised under the name of providence, in another the frankly commercial schemes of a trading company to make a profit by sweating the doctors in their employ. The medical profession



is awakening to the necessity of asserting its rights against encroachments on every side. With a united profession, resolved on this vital principle to sink all minor differences and to forget all jealousies, the conflict need not be long nor the result doubtful."

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#### THE BRITISH MEDICAL ASSOCIATION.

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THE recent meeting of the British Medical Association, held at Carlisle, July 28, 29, 30, 31, was fully up to the standard, which, during late years, has been reached by that greatest of all medical societies. The most interesting feature, as far as Canada is concerned, was the acceptance of the invitation from the local branch in Montreal to hold the meeting of 1897 in that city. The *British Medical Journal* (August 1), in a leading editorial, cordially endorses the decision of the council, which, we are pleased to say, was unanimous. We take the following from the *Journal's* interesting article :

"The deputation which attended the meeting of the council of the association to make the formal request that the association should go to Montreal next year consisted of Dr. G. E. Armstrong, Professor of Clinical Surgery, McGill University, and surgeon to the General Hospital, Montreal, and Dr. J. G. Adami, Professor of Pathology in the McGill University, and Pathologist to the Royal Victoria Hospital, Montreal ; but these gentlemen, who represented the Montreal branch, were supported by Dr. I. H. Cameron, Professor of Surgery, University of Toronto ; Dr. A. B. Macallum, Professor of Physiology in the University of Toronto ; Dr. Peters, Professor of Clinical Surgery in the University of Toronto ; and Dr. Doolittle, Lecturer in Therapeutics in the University of Trinity College, Toronto.

Professor Armstrong and Professor Adami, in presenting the invitation to the council as representatives of the Montreal branch, promised that a cordial reception awaited the association in Montreal ; and Professors Cameron and Macallum, as representatives of Toronto, cordially endorsed the invitation of the Montreal branch in the name not only of Toronto, but of the Dominion.

The council accepted the invitation without a dissentient voice. Professor T. G. Roddick, the president of the Montreal branch, has been nominated as president-elect. Dr. Roddick is Professor of Surgery in the McGill University, and consulting surgeon to the Royal Victoria Hospital at Montreal. He represents Montreal in the Dominion Parliament, having succeeded Sir Donald A. Smith, now the High Commissioner of the

Dominion in this country. Professor Roddick is one of the leading surgeons of the Dominion, and is widely known both on account of his professional eminence and his social influence with all classes.

It will be remembered that this is not the first occasion upon which the wish of our Canadian associates that the British Medical Association should meet in Canada has been made known. Sir William Hingston, at the Nottingham meeting, when he delivered the address in surgery, and Dr. Osler, himself an old Montreal graduate, in a speech that will be remembered by all who were present at the Bristol meeting, have given public utterance to the desire on the part of our Canadian *confrères* to welcome the association to the Dominion."

As our readers are aware, the British Association for the Advancement of Science will hold its meeting in 1897 in Toronto; and it is expected that a date will be selected which will allow the members of the association to go to the Montreal meeting after they have finished their work in Toronto.

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#### THE NEW ACT RELATING TO BIRTHS, MARRIAGES, AND DEATHS.

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THE Act recently passed by the Ontario Legislature contains some clauses which are important from a medical point of view. The clauses especially affecting physicians are those which require them :

- (1) To report all births to the registrar in each division.
- (2) To report all deaths to the medical health officer of each municipality.

The following are the clauses referring to these matters :

16. It shall be the duty of every qualified medical practitioner attending at the birth of any child born within this province to give notice forthwith thereof to the registrar of the division in which the child was born, giving, as far as possible, the particulars required in the form provided by the Registrar-General, with such additional information as may, from time to time, be required by the Registrar-General, in forms to be supplied through the division registrar.

17. In registering the birth of an illegitimate child, it shall not be lawful for the name of any person to be entered as the father unless at the joint request of the mother and the person acknowledging himself to be the father; and in all cases of the registration of the birth of illegitimate children, the division registrar shall write the word "illegitimate" in the column set apart for the name of child, and immediately under the name, if any.

22. Every duly qualified medical practitioner who was last in attendance during the last illness of any person shall forthwith, on notice of the death of such person, send to the medical health officer of the municipality in all cities, towns, and villages, for inspection and subsequent transmission to the division registrar, or, in case there is none, to the division registrar of the division in which the death took place, a certificate under his signature of the cause of death, according to the form prepared by the Registrar-General, to be provided by the division registrar, who shall be furnished with such forms, and who shall supply them to the physicians resident within his municipality.

23. No removal for burial of the dead body of any person shall take place, and no undertaker, clergyman, sexton, householder, or other person, shall engage in the burial of the dead body of any person unless a certificate of registration has been previously obtained and shown to the person so removing or engaging in the burial of the dead body. Provided that when death from a contagious disease has occurred in any township a certificate of registration from the nearest division registrar after revision by the medical health officer of the township and his certification thereof endorsed thereon shall be sufficient ; but such division registrar shall forward the certificate to the registrar of the division in which the death occurred.



## Correspondence.

### DR. SANGSTER RISES TO OBJECT.

To the Editor of THE CANADIAN PRACTITIONER:

SIR,—My attention has just been directed to an editorial in your last issue, in which you do scant justice to a letter of mine that appeared in the July number of *The Medical Review*. Kindly afford me space in this month's PRACTITIONER to correct some of the more conspicuous inaccuracies and fallacies of your article.

You state that I threaten "fearless criticisms of every thought, word, and action of each and every member of the council." My letter in the *July Review* is before the profession, and a reference to it shows that what I did say is simply that to someone would be deputed the "duty of fearlessly criticizing every vote given and every contention set forth by each member of the council." I distinctly limit the proposed criticism to *votes and arguments*, and you make it appear that I propose that someone shall attempt the impossible task of reviewing not only every word and every action, but, worse still, every thought of every member of the council! Is this fair and honorable journalism?

You say that "it appears" (*i.e.*, from my letter) "that constitutional methods have grown somewhat tedious and monotonous to some of these gentlemen," and, further, that they (we) have now "decided to enter into an aggressive and unconstitutional warfare." Can you point out a single instance, from first to last, in which the executive of the Defence Association, or anyone assuming to speak, or to write, or to act in its behalf, has used or proposed to use methods of warfare which any recognized or competent authority would pronounce unconstitutional or unparliamentary? It was decided that an effort should be made to rectify existing abuses constitutionally through the council itself. This does not imply—although you have chosen to put that forced construction upon it—that these abuses cannot be constitutionally rectified in any other way, or that anyone proposed to seek their rectification by means other than constitutional. Such an effort has been made, not only once, but twice, and it was, on both occasions, frustrated, as I have explained in this month's *Review*, by a machine which, while it is suffered to exist in the council, precludes all

hope of future success in that direction. We know that our demands are righteous, and our duty to our constituents forbids us to cease from vigorously pressing them. To that end we propose, in the first place, to appeal constitutionally to the electorate, so as to secure, at the approaching elections, a council which, from a professional point of view, shall be more happily constituted. Failing in that, we shall seek redress from the legislature, which is our final court of appeal. You stigmatize this course as unconstitutional, and imply that it is unparliamentary and not respectable. Yet you must know that there is not a member of the House of Commons, of any note, whose votes and contentions have not, during the past six months, been time and again sharply and even viciously criticized by one or other of his fellow-members on the public platforms or in the public press. Have such men as Laurier, Tupper, McCarthy, and Wallace pursued devious, or unparliamentary, or unconstitutional, or discreditable courses when on the platform or in the daily newspapers they have appealed to the political electorate for a change in the complexion of the House, or when they have hammered at the policy or exposed the unfaithfulness of any individual member or members whose votes or contentions they were reviewing? I feel sure, sir, that not even your youthful zeal, as a newly-fledged authority on constitutional modes of procedure, will prompt you to answer this question affirmatively. And, if not, how do you propose to justify your unwarrantable assertion that we had grown tired of constitutional means and purposed resorting to unconstitutional methods of warfare? It is quite within your province to aspire to become the Mentor of the profession, but do you think that editorials such as this are calculated to so win the confidence of the electorate that it may eventually accept your mere dictum as authoritative on matters of constitutionalism and fair dealing?

You say that practically I "advise members of the profession to refuse to pay their assessment dues." While I claim that, under the circumstances detailed in this month's letter to *The Review*, I should be amply justified in offering such advice, I deny that I have done anything of the kind. I have received and answered scores of letters asking for information and direction on this matter, but I have uniformly declined to assume the responsibility of advising the writers not to pay. I have explained, as I did in my letter to *The Review*, the facts and the law as it applies to those in arrears, but I have strictly left it to each individual to decide for himself whether he shall pay or refuse. Any fair man will agree with me that the plain inference to be drawn from this part of my letter is that, while members of the college may be and probably are safe in refusing to pay up before March, 1898, their position thereafter, if they still refuse or neglect to pay, becomes a somewhat risky one.

Permit me to say, sir, that your whole editorial goes to show the futility of expecting anything like really independent journalism from those who, like yourself and your associate editors, are actively engaged as teachers and professors in the medical schools. Your material interests, your inspirations and your aspirations, are all intimately bound up in the institutions with which you are connected; and where, as in my threatened exposure of the origin of the recent changes in the matriculation standard, these are even indirectly assailed, it is perhaps too much to expect you to be impartial. It is true that, as between the two wings of the profession, your sympathies have swayed sometimes to one and sometimes to the other; but, as compared with your sympathies with the schools, it was perhaps never more than skin deep. Independent medical journalism is just now a desideratum. It was hoped that with the decease of the *Ontario Medical Journal* the epoch of really unfair medical journalism in Ontario had come to an end. It will to very many be a matter of sincere regret if it should now turn out that the mantle of that Elijah has fallen upon the shoulders of THE CANADIAN PRACTITIONER.

JOHN H. SANGSTER.

Port Perry, August 5, 1896

#### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

To the Editor of THE CANADIAN PRACTITIONER:

DEAR SIR,—I desire to announce to you that the date of the meeting of the Mississippi Valley Medical Association has been changed to September 15, 16, 17 and 18, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park, so justly celebrated as the wonderland of America.

Prominent resident members of our association in St. Paul and Minneapolis are formulating plans for the special Yellowstone Park excursion trip, to leave on the evening of September 18th, arriving in Mammoth Hot Springs in the Yellowstone Park about noon on the following Sunday, and devoting the following five days to the wonders of this remarkable region, returning to St. Paul on Sunday, September 27th.

The cost of the trip, including all expenses west of St. Paul, will be announced in due season, but we are authorized to say that the figure will be a very favorable one, and we simply wish at this time to make the preliminary announcement of this most enjoyable feature of the St. Paul meeting, so as to give members the opportunity of making their plans in advance to join the party. It is desirable that there be a party of 100 or more, in order to obtain the benefit of the special train service in both directions.

It is urged that all members who desire to join the party should send their names to Dr. C. A. Wheaton, chairman of the Committee of Arrangements, St. Paul, at as early a date as possible. If you desire to read a paper before the meeting please send to me the title at once.

HANAU W. LOEB, Secretary.

St. Louis, July 30, 1896.



## Meetings of Medical Societies.

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### LONDON MEDICAL ASSOCIATION.

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The last meeting of the London Medical Association, prior to adjournment for the midsummer, was held in the Medical College building on the 15th July.

Dr. Hodge read a paper on

#### THE ETIOLOGY OF TYPHOID FEVER.

He gave notes of eight cases ; all contracted the disease from the same source. The first case was that of a child who came with its mother from Montreal on a visit to London, and a week later took ill with what proved to be a typical case of typhoid fever. After a four weeks' illness the child and its mother returned to Montreal, where the mother and two other members of the family, shortly after, passed through an illness from typhoid fever. In the family visited at London, three members, as well as a child in the adjoining tenement, also took the fever. As to the cause of the large number contracting the disease, it was learned that during the illness of the first child in London the soiled napkins worn by the child in the course of the diarrhoea which complicated the fever were deposited in a tub of water in a back kitchen, and after soaking for from one to three days the water, prior to washing the napkins, was regularly emptied on the ground in the backyard.

All who afterwards took ill, including the boy in the adjoining tenement, were in the habit of frequenting or playing in the yard in question. Those who escaped the disease were the members who did not much frequent the yard.

Dr. Hodge maintained that the circumstances warranted the conclusion that all seven cases had taken the disease from the exhalations in the yard where the infected water was regularly emptied. He believed the bacilli in this, as in all cases of typhoid, entered the system through the digestive tract, first infecting the saliva, and by means of it conveyed to the primæ viæ. Only through the excreta from that tract did he believe typhoid was communicable.

Dr. Gardiner thought it an open question whether typhoid might not

be communicable through other sources than the excretions from the bowels. He thought it possible that in some cases the breath or exhalations from the skin might be the medium of contagion, and referred to cases that came under his own observation in support of this view.

Dr. Wishart read the history of a case of successful

#### NEPHRO-LITHOTOMY

in his own practice. The patient had symptoms of stone in the kidney for some five years. During this time he had, every few months, attacks of pain in the abdomen, lasting several hours and terminating in vomiting. During one of these attacks, one and one-half years ago, he passed a small calculus. Throughout the whole course of his illness the patient had frequency of urination, but never to his knowledge passed blood in the urine, except on one occasion. The doctors whom he consulted, however, said there was blood in the urine when they examined it microscopically.

The pain during the last year was rather constant and located below the ribs on the right side of the abdomen, but never radiated down the groin, or to the testicle or bladder. In the attack which Dr. Wishart witnessed, the patient had his right hand over the right inguinal region, and said all the pain was there, and did not radiate or change its location. Examination of urine showed specific gravity 1030, reaction acid, presence of blood cells, and a trace of albumen. The patient said he had taken medicine constantly for several years without marked benefit, and had been unable to do any work.

Dr. Wishart operated on March 25, 1896, reaching the kidney by the usual lumbar incision. The stone which he extracted and presented at the meeting was irregular in shape, about an inch in length, and of the diameter of a goose quill. The patient was able to return to his home, in Essex county, on April 24, and had reported a few days before this meeting that he was now in good health.

The doctor said that while operation for stone in the kidney was frequent enough, yet the records of cases where stone was actually found were comparatively few. The cases recorded up to a few years ago of the finding of stone in the kidney were less than thirty. He did not know what the number might be up to the present time, as he had not the records for the past three or four years.

A discussion followed as to the conditions which justified operation for stone, Drs. Meek, Gardiner, Graham, Hodge, Ferguson, and Wishart taking part in the discussion. The majority were in favor of a conservative course, operative interference being resorted to only when the symptoms persisted for a lengthened period and spontaneous cure became hopeless.

## Book Reviews.

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ARCHIVES OF CLINICAL SKIAGRAPHY. A record of the progress of medical photography and its various branches. With six skiagrams by Sydney Rowland, B.A., and clinical reports of the cases. London: The Rebman Publishing Company, Limited, 11 Adam street, Strand. Price, 4s. net per issue; with postage, 4s. 4½d. Portfolio to hold twelve issues, price 2s. post free.

We have received parts 1 and 2 of the *Archives*, and recognize the enterprise of the editor and publishers in putting forth such a thoroughly up-to-date publication. The illustrations are most beautifully executed, and the subjects are of the utmost interest. Skiagraphy is a recognized method of diagnosis, and a journal devoted to its advancement is bound to succeed. We look forward with pleasure to the subsequent volumes. The price is low when the quality of the illustrations is taken into consideration.

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OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By L. Ch. Boisliniere, A.M., M.D., LL.D., late Emeritus Professor of Obstetrics in the St. Louis Medical College; Consulting Physician to the St. Louis Female Hospital and to St. Ann's Lying-in Asylum, etc. Philadelphia: W. B. Saunders, 925 Walnut street.

As the author says, this book is not a treatise on midwifery nor a manual of obstetrics. It treats the greater portion of what may be called pathological midwifery. It was written by a man of education, culture, and vast experience, and has been called by some of the author's friends "the crowning work of his life." Dr. Boisliniere died while the work was in press, January, 1896. It is altogether outside of the ordinary run of text-books on midwifery, and is in many respects all the more interesting on that account. Among the accidents described are abortion, puerperal hæmorrhages, inversion of uterus, rupture of uterus, obstacles to labor, tumors complicating labor, uncontrollable vomiting of pregnancy, convulsions, uterine displacements, etc. The second part of the work treats of version and other obstetric operations. The third part treats of accidents to the child. The style of writing is good, and the subject-matter is made more interesting by the narration of the author's personal experience in different varieties of accidents and emergencies. The book is especially well suited for general practitioners.



## Medical Items.

DR. MACARTHUR and family (London) are summering at Grand Bend.

DR. AND MRS. ARNOTT, of London, are taking a trip down the St. Lawrence.

DR. PRIMROSE, of Toronto, has gone to Nova Scotia, where he will spend a part of the summer.

DR. GEORGE R. McDONAGH, of Toronto, has removed from Church street to his new offices, 140 Carlton street.

DR. JOHN FRASER, of London, is off on a visit through New Mexico, and intends returning by way of the West Indies.

DR. G. STERLING RYERSON has returned from England. We are glad to be able to state that his health is quite restored.

SURGEON-CAPTAIN EDMUND E. KING, Royal Grenadiers, after ten years continuous service has been granted the rank of Surgeon-Major.

DR. E. W. SPRAGGE, of Toronto, will spend a portion of the summer in Great Britain, and will then probably go on to the continent for a short time.

DR. BUCK, Superintendent of the Asylum for the Insane, London, attended the meeting of the American Psychological Association at Boston last month, and was elected vice-president.

DR. R. J. CRAWFORD (Tor., 93), who has been practising in Winnipeg for the last five years, will leave next month for Great Britain. He will probably remain abroad for a year or more.

DR. EASTMAN, the distinguished abdominal and pelvic surgeon, of Indianapolis, spent a week early in August in Toronto, as the guest of Dr. S. M. Hay. From Toronto he went to Muskoka, where he will remain a few weeks.

DR. THEOBALD COLEMAN (Tor., '91), after spending a year and nine months in the Johns Hopkins Hospital, Baltimore, working in surgery and pathology, has gone to England to continue his post-graduate studies. After a sojourn of a few months in England, he will go to Germany.

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### AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

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The ninth annual meeting of the American Association of Obstetricians and Gynæcologists will be held at Hotel Jefferson, Richmond, Va., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1896. The following papers will be presented :

1. Principles and progress in gynæcology, President's address, Joseph Price, Philadelphia. 2. Vaginal hysterectomy by the clamp method, Sherwood Dunn, Los Angeles. 3. Further experience with appendicitis, A. Vander Veer, Albany. 4. Relation of malignant disease of the adnexa to primary invasion of the uterus, A. P. Clarke, Cambridge. 5. Treatment of puerperal septicæmia, H. W. Longyear, Detroit. 6. Treatment of posterior presentation of the vertex, E. P. Bernardy, Philadelphia. 7. Relation of the local visceral disorders to the delusions and hallucinations of the insane, W. P. Manton, Detroit. 8. Differential diagnosis of hæmorrhage, shock, and sepsis, Eugene Boise, Grand Rapids. 9. Movable kidney: local and remote results, A. H. Cordier, Kansas City. 10. Pathology and indications for active surgical treatment in contusions of the abdomen, W. G. Macdonald, Albany. 11. Some causes of insanity in women, George H. Rohé, Sykesville. 12. Subject to be announced, John Milton Duff, Pittsburg. 13. Shall hysterectomy be performed in inflammatory diseases of the appendages? L. H. Dunning, Indianapolis. 14. Subject to be announced, Rufus B. Hall, Cincinnati. 15. Subject to be announced, Geo. Ben. Johnston, Richmond. 16. Dynamic ileus: with report of cases, J. W. Long, Richmond. 17. Faradic treatment of uterine inertia and subinvolution, Charles Stover, Amsterdam. 18. A plea for absorbable ligatures, H. E. Hayd, Buffalo. 19. Treatment of the stump, J. F. Baldwin, Columbus. 20. Limitations in the teaching of obstetrics and gynæcology as determined by state medical examining boards, William Warren Potter, Buffalo. 21. Subject to be announced, Walter B. Chase, Brooklyn. 22. (a) The philosophy of drainage; (b) Treatment of the pedicle in hysterectomy or hysteromyomectomy in the abdominal method, Geo. F. Hulbert, St. Louis. 23. Removal of the uterine appendages for epilepsy and insanity; a plea for its more general adoption, D. Tod Gilliam, Columbus. 24. Albuminuria of pregnancy, A. Fr. Eklund, Stockholm. 25. Subject to be announced, Lawson Tait, Birmingham. Unnecessary and unnatural fixation of the uterus and its results, James F. W. Ross, Toronto. 27. Sarcoma of the urethra, Charles A. L. Reed, Cincinnati. 28. Appendicitis as a complication in suppurative inflammation of the uterine appendages, L. S. McMurtry, Louisville. 29. Gunshot wounds of the abdomen with the new gun, J. D. Griffith, Kansas City. 30. Subject to be announced, Walter B. Dorsett, St. Louis. 31. Subject to be announced, W. E. B. Davis, Birmingham. 32. Subject to be announced, E. Arnold Praeger, Los Angeles. 33. Tubo-ovarian cysts with interesting cases, A. Goldspohn, Chicago. 34. Obstruction of the bowels following abdominal section, Geo. S. Peck, Youngstown. 35. Memorial of Dr. Hiram Corson, Traill Green, Easton.

Correspondence is pending concerning additional papers. All titles must be offered before August 25th, when the permanent programme goes to press.

JOSEPH PRICE, *President*.

WILLIAM WARREN POTTER, *Secretary*.

#### THE CANADIAN MEDICAL ASSOCIATION.

The Canadian Medical Association will meet in St. George's Sunday School room, No. 15 Stanley street, Montreal, on August 26, 27, and 28.

The local committee are putting forth every effort to make the meeting a success. There will be "clinics" at 12.30 each day at the various hospitals—General, Hôtel Dieu, and Royal Victoria. The "clinics" will be followed by the reading of papers in the theatre of the hospitals, and, in order that time may be saved, light lunches will be served.

On two afternoons, Wednesday and Thursday, there will be short excursions, and on Thursday, August 27, at 7.45 p.m., the association dinner will be held.

Special arrangements have been made with the street car company so that no time will be lost in going to the hospitals from the place of meeting.

This promises to be the largest meeting of the association ever held.

The Interprovincial Registration Committee, about which so much interest centres, is booked to meet on August 26, at 10 a.m.

The regular sessions of the association commence at 12.30, noon, at the General Hospital.

The following is a list of the papers to be presented :

President's address, Jas. Thorburn, Toronto ; address in bacteriology, J. G. Adami, Montreal ; address in medicine, Geo. Wilkins, Montreal ; address in surgery, John Stewart, Halifax ; address in midwifery, "Abdominal and pelvic operation for the relief of conditions incident to the puerperal state," J. F. W. Ross, Toronto ; — J. D. Thorburn, Toronto ; "Hæmorrhagic pancreatitis," A. McPhedran, Toronto ; Title to be announced, Wm. Osler, Baltimore ; "One hundred cases of retroversion of the uterus, treated by ventrofixation and Alexander's operation, with results," A. Laphorn Smith, Montreal ; "The influence of mitral lesions on pulmonary tuberculosis," J. E. Graham, Toronto ; "A note on amputation at the hip joint in tubercular disease," A. Primrose, Toronto ; "Tetany following scarlatina," J. B. McConnell, Montreal ; "The foot, its architecture and clothing," B. E. McKenzie, Toronto ; — H. S. Birkett, Montreal ; "Ophthalmia neonatorum," R. Ferguson, London ; "Observations on the relation between leukæmia and pseudo-leukæmia," C. F. Martin and G. H. Matthewson, Montreal ; "Etiology and treatment of acne vulgaris," A. R. Robinson, New York ; "Thyroidectomy," D. Marcil, St. Eustace, Que. ; "Some observations on the heredity of carcinoma," T. T. S. Harrison, Selkirk ; "Some applications of entomology in legal medicine," Wyatt Johnston and Geo. Villeneuve, Montreal ; "Physiological demonstrations of interest to medical men," Wesley Mills, Montreal ; "The theory of the eliminative treatment of typhoid fever," W. B. Thistle, Toronto ; "Oral surgery," G. Lenox Curtis, New York ; "Vaginal Fixation of the Round Ligaments for Backward Displacements of the Uterus," H. N. Vineberg, New York ; "Clergyman's sore throat" (?), J. Price-Brown, Toronto ; "Non-malignant tumors of the tonsil, with report of a case," H. D. Hamilton, Montreal ; "Sinus thrombosis, associated with acute suppurative otitis media, occurring during scarlet fever," J. W. Sterling, Montreal ; (a) "Exhibition of an artificial nose-bridge," (b) "Some cases of foreign bodies in the eye, in which the electro-magnet was used successfully," F. Buller, Montreal ; "Remarks on cold air in the treatment of pulmonary tuberculosis," Edward Playter, Ottawa ; "Hereditary Cerebellar Ataxia (with patient)," D. Campbell Myers,



Toronto ; "A report of three cases of abdominal section for conditions comparatively rare," H. Meek, London ; "Early atrophy of muscles in cerebral disease," Frederick G. Finley, Montreal ; Title to be announced, F. J. Shepherd, Montreal ; "Electric baths and dyspepsia," A. L. de Martigny, Montreal ; Title to be announced, J. C. Webster, Edinburgh ; "Militia medical reorganization," W. Tobin, Halifax.

From the circular sent to members we extract the following information about the Montreal meeting :

*How to get there.*—Purchase a ticket for Montreal, by rail or boat, from the station agent at the place of departure, and get from him a standard certificate (which is a receipt for one full single fare). When registering at the meeting leave the certificate with the treasurer, and it will be returned, signed by the secretary, on the morning of August 28. This certificate, when presented to the station agent at Montreal, will entitle the bearer to a ticket to his destination (1) for one-third of the single fare if there are fifty or more holding standard certificates ; (2) free of charge, if there are 300 or more holding such certificates.

N.B. No. 1.—Delegates who travel by the Intercolonial will be returned for one-third of the single fare from Montreal to Lévis, and free from there, irrespective of number.

N.B. No. 2.—These rates refer to members, delegates, and their wives.

*Hotel accommodation.*—Windsor, \$3 and \$3.50 per day (special rate if fifty register) ; St. Lawrence Hall, \$2.50 per day (special rate) ; Balmoral, \$2.50 per day (special rate) ; Queen's, \$2 per day (special rate for one full day) ; Richelieu, \$2 per day (special rate).

#### PROVISIONAL PROGRAMME.

Wednesday, August 26.—10 a.m., St. George's Church schoolrooms, No. 15 Stanley street, Committee on Interprovincial Registration. 12.30 p.m., Montreal General Hospital, Clinical Work ; President's Address, followed by general business and papers. 4 p.m., short excursion. 8.30 p.m., St. George's schoolrooms, Address in Medicine, Geo. Wilkins, Montreal ; Reading of papers.

Thursday, August 27.—10 a.m., St. George's schoolrooms, Address in Bacteriology, J. G. Adami, Montreal ; Reading of papers. 12.30 p.m., Hôtel-Dieu Hospital, Clinical work ; Address in Surgery, John Stewart, Halifax ; Reading of papers. 4 p.m., short excursion. 7.45 p.m. sharp, Association dinner.

Friday, August 28.—10 a.m., St. George's schoolrooms, Address in Midwifery, J. F. W. Ross, Toronto ; Report of Committee on Interprovincial Legislation ; Reading of papers. 12.30 p.m., Royal Victoria Hospital, Clinical work ; Reading of papers ; Reports of Committees.

N.B.—Light lunches will be provided for the members at the hospitals, and special electric cars will be furnished to and from these institutions.

# THE CANADIAN PRACTITIONER

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## Original Communications.

### ADDRESS OF THE PRESIDENT OF THE CANADIAN MEDICAL ASSOCIATION.\*

BY JAMES THORBURN, M.D.,

TORONTO.

I DESIRE, in the first place, to thank you for the honor you have conferred upon me in making me the president of this great association. I consider it the highest honor in the gift of the profession of the Dominion of Canada. When I think of the eminence of my predecessors, I have great apprehension of my ability to meet your expectations; but, gentlemen, relying on your kind assistance and loyal support, I will fulfil the duties of my office to the best of my skill.

During the past year many bright men have gone the way of all living. Medical science has lost her most valued son in Pasteur. Although many names are prominent in connection with the recent great advances that

\*Delivered at the annual meeting at Montreal, August 26, 1896.

have been made in medicine, that of Pasteur will always be pre-eminent. He may fairly be credited with having put the germ theory of disease beyond all dispute. Protective inoculation, apart from Jenner's work, was first understood and successfully applied by him. The surgery of the present day owes its success very largely to him. Lister was stimulated to carry out his early experiments upon suppuration and infection in consequence of following Pasteur's researches upon fermentation, including ammoniacal fermentation of urine in the bladder. More recent therapy owes much to him. His success in the handling of patients who were presumably inoculated with rabies is well known, and there can be little doubt that the serum therapy of to-day comes indirectly from Pasteur's labors. It may be that the results of the work of Pasteur, and a host of others in the lines indicated, are not yet thoroughly understood or appreciated by the profession generally; but the knowledge that we have recently obtained respecting both the diagnosis and treatment of such diseases as hydrophobia, anthrax, tetanus, diphtheria, tuberculosis Asiatic cholera, typhoid fever, and septicæmia has already been productive of good results, and is likely to do much more in the future. Some are still skeptical as to the good that has been accomplished through modern serum therapy, but the ordinary conservatism of our profession has some influence now, as it so frequently had in the past, in preventing us from accepting new theories. One of the most remarkable instances of extreme conservatism that we know of was the opposition that Jenner encountered when he gave to the world the result of his experience in his work in connection with vaccination.

At the present time the number of those opposed to vaccination is very small indeed. The centenary of the vaccination of James Phipps, by Jenner, has recently been celebrated over the civilized world, and well might it be. By the discovery of vaccination, and its subsequent use, more lives have been saved than all the wars devised by the wickedness of man have destroyed; and I think it would be in keeping with the custom of our profession if some resolution were passed by this association expressive of our gratitude for this wonderful discovery.

In considering the different events of the past year, it becomes my melancholy duty to refer to the deaths of some of our ablest and most highly respected members. Drs. Fenwick and Saunders, of Kingston, and Dr. McFarlane, of Toronto, were well known to most of you as highly successful medical practitioners, and worthy and honorable men in all respects. They have gone from our midst, and it is difficult for us who are left to realize the sad fact that we will never more see their kindly faces at our meetings. It is a somewhat remarkable coincidence that these three honored members of our association died from septic poison, received while in



the discharge of their duties, and their deaths must ever remain as witnesses of the self-sacrifice and devotion of our noble calling. No soldier, leading a forlorn hope, died a braver death. The duty of the military man is to destroy life and weaken the enemy ; that of the medical man is to relieve pain and prolong life. May their honored names forever remain green in our memories !

An important subject for us to consider, gentlemen, is a common registration for the Dominion, or interprovincial reciprocity. The various provinces of our Dominion have regulations as to their medical curricula, which, while generally satisfactory from a local point of view, are widely divergent. This condition of affairs has been unavoidable. The wide extent of our country, with a sparse population, especially in certain localities, has made it difficult to maintain a uniformly high standard of medical education both in the preliminary and regular medical courses. I think, however, the time has arrived when the obstacles in the way may be overcome by mutual concessions on the part of the different provincial medical authorities.

The importance of obtaining a common standard for the whole Dominion cannot be questioned. As it is now, the physician's license does not extend beyond his own province, and, furthermore, I have every reason to know that, with a common Canadian standard, we could have reciprocal registration with the motherland, as already provided for by the Imperial Statutes, 1888, and then we would have uniformity of registration, not only in the Dominion, but throughout the Empire, of which we are all so proud, and whose banner, wherever it waves, is the emblem of civil and religious liberty.

Speaking as a member of the Ontario Medical Council, I may say we have always endeavored to maintain a high standard of preliminary and medical education. I have no doubt that our council would give careful consideration to any scheme unanimously recommended by the Canadian Medical Association.

The want of uniformity of registration in the different provinces is not only detrimental to our common progress and national unity, but has a tendency to drive away many good and valuable men from our land. As the law stands now, we are simply localized practitioners, liable to be prosecuted if we venture to practise beyond our immediate province. The making of a curriculum suited to the whole Dominion is not an easy matter. After having considered the question with some care, and having consulted with some of the most prominent teachers and practitioners in the various provinces, I would suggest that throughout the Dominion a four years' course of eight or nine months each be devoted to lectures, hospital, and laboratory work. I would not have the number of didactic

lectures increased, but the number delivered daily decreased, and would recommend that no lecture should occupy more than forty-five minutes. As it is at present, nearly the whole day is spent by the student in attending lectures, leaving little or no time for the important branches of observation and research. The five years' course, with winter sessions of six months, and one summer session of three months, is, in my opinion, not equal to a four years' course with sessions of eight or nine months. We all know from personal experience that the six months' term is practically but a five months' session; for allowance must be made for the two weeks' holiday at Christmas, and the last two weeks in March, which are taken up in examinations, etc. The long interval between the cessation of lectures in March and their commencement in October, over six months, is practically a barren period to most of the students. In the longer session of eight months, the student could divide his time to better advantage between attending lectures and taking part in practical work at the bedside, laboratory, etc. In addition, it would afford him some time for social life, which, in those days of rush and hurry, is sadly neglected, frequently to the detriment of many well-informed medical men, and in consequence of which they frequently fail to attain that success in life to which their professional knowledge entitles them. We should not only be educated men, but also men of gentle deportment and good manners. I hope, gentlemen, that the committee appointed at our last annual meeting on reciprocal registration will be able to report favorably for the eight months' session, as I am thoroughly convinced that such a course would be better both for the student and teacher.

Another subject of very considerable importance is the relationship of medical men to life insurance. Heretofore no special reference has been made to this subject. It has a most practical bearing on the success of every medical man. It is a well-known fact that many physicians can diagnose a disease with almost a positive certainty, but from lack of special training as to the probable expectation of life are often at a loss to state, with any approximate degree of certainty, what that may be in any individual case.

It has been said, and truly so, that the medical examiner is the watchman at the gate of entrance to life insurance. His office is a most sacred one, and from the fact that so much confidence is placed in him it is his duty to shield his company from every appearance of imposition. Examining for life insurance is so important, and the amount paid in medical fees so enormous, that in common fairness and honesty physicians should fit themselves most thoroughly for this branch of their profession. This has been recognized by the University of Vermont, which provides a course of lectures in life insurance medical examinations. The services

which every first-class insurance company is seeking are those of the educated, scientific, and skilled physician. The companies require the very best services that can be obtained. In our own Dominion the moneyed interest involved in life insurance is enormous. The obligation of the regular life institutions alone to policy-holders amounts to about three hundred and twenty millions of dollars, and in this I do not include the numerous benefits of friendly and assessment societies. These figures are being augmented each year by about twelve millions of dollars, and in the past twenty years alone they have been increased by about fourfold. The profession receives from the companies for medical examination fees yearly a sum not less than \$150,000, and if we turn to the land immediately to the south of us the figures quoted appear but insignificant. The thirty-three companies reporting to the New York insurance department are responsible to policy-holders in the enormous sum of six billions of dollars, and pay for medical examination fees a sum not less than two millions of dollars, which does not include the compensation of medical officers and directors, but simply the fees for examination of applicants.

Such an important part has the physician played in his relation to life insurance that in the United States there was formed some five or six years ago a medical directors' association, and some two or three years later a similar association was organized in England. In the former organization the chief medical officers of some of our more prominent Canadian life insurance companies are members. The objects of these associations are to obtain increased information and greater unity of opinion regarding medical subjects connected with life insurance. The American societies consist only of the life insurance medical directors, but in the English society both the medical directors, and all physicians who are legally qualified, are eligible for membership. The plan of the British association appears to be the better, for, while there are many questions which more particularly concern the executive phase of the medical department of the business, the real utility of these organizations is, and should be, the discussion of all medical subjects in relation to insurance, and the securing, as much as possible, of uniformity of opinion and practice. This can only be done by a conference, not simply of medical directors, but of both directors and examiners.

The question of professional secrecy is one which is ever and anon brought prominently before the profession and the public. In some countries, for example, France, and in some of the states of the North American Union, the physician is not allowed to divulge information received from his patient in a professional capacity, unless it involves conspiracy against the state or murder. Legal decisions in Britain and her colonies, as well as in some parts of the United States, are not satisfactory



or definite, and much is left to the decision of the judge and jury. No one questions the sacredness of married life, and the divulging of information obtained by a physician in his professional capacity would certainly be considered as contrary to all good morals and unbecoming the conduct of a physician and gentleman. It is to be regretted and severely deprecated that some medical men are overfond of retailing their professional experiences—some from the mere love of gossip, others from a desire to advertise themselves as something unusual. All such conduct is inexcusable, and I am glad that it is condemned by the majority of the profession, as well as by the more thinking public. It is when a medical man is brought into a court of law that his position is somewhat altered. As I have already intimated, in some countries all professional information is considered sacred, and must not be divulged voluntarily, nor can the physician be compelled to reveal it. From a careful study of cases in Great Britain and other English-speaking countries, I learn the decision of judges in general is to make it compulsory on a medical man to tell under oath, like any other witness, all that he may know, whether his knowledge has been obtained in a medical capacity or otherwise. If, however, the knowledge involves the witness, he need not incriminate himself. I think this ruling is of doubtful expediency ; its tendency is to disturb the mutual confidence that exists between the patient and the physician—that honorable, sacred feeling so healthful to both parties. There are, I must confess, so many circumstances connected with individual cases that a fixed rule is not always possible. Speech is silver, but silence is golden.

In view of the wonderful discoveries of modern days, especially in reference to mechanical appliances, one should hesitate before pronouncing emphatically against the possibility of almost any discovery. The uses of electricity are so varied and well established that we should not ignore any statement as to its results without investigation. It was only the other day that a message was sent around the civilized world in a space of time not greater than I am occupying in speaking to you now. Electricity has also been recognized as a very important therapeutical agent in the treatment of diseases. One of the most recent discoveries, known as the Roentgen X rays, is the skiagraphing or photographing of the shadows of internal parts through dense structures, muscles, and bones. This must prove of great assistance in the diagnosing of many diseases hitherto obscure, and must also prove of great service to the surgeon in locating the presence of bullets, needles, and other substances that have entered the body, as well as indicating the presence of disease, for example, in cases of injuries to the vertebræ, stone in the gall bladder, kidney, and vesical bladder, the position of the fœtus in utero—in fact, gentlemen, I have no doubt but that the uses of the instrument will become most frequent as improvements are made upon it.

I have watched the growth and development of this association with the deepest interest. I had the privilege and pleasure of being present at its first meeting, held in Quebec in 1867. Has it received the support from the various parts of the Dominion to which it is entitled? I do not know that I can say, unreservedly, yes; but I certainly can say that it has ever and always received the most loyal and cordial support of the profession of Montreal. I have no hesitation in telling the honorable and zealous body of physicians and surgeons of this city that our members from the East and from the West, from the Atlantic and the Pacific, highly appreciate the work you have done in the interests of our national medical society, and I think that I may take the liberty of offering you the congratulations of the medical profession from the various provinces of our great Dominion on the honor that has been conferred on Montreal by the unanimous decision of the council of the British Medical Association to hold its next annual meeting in your fair and prosperous city. I also have much pleasure in tendering our congratulations to your distinguished townsman, Dr. Thomas G. Rodick, the president-elect.

Many subjects of a scientific nature in the various department of medicine will be brought before you, and I know that they will receive your most careful consideration, and I ask you one and all to put forth the most strenuous efforts to make this meeting a pronounced success.

In conclusion, gentlemen, allow me to express the hope that the Canadian Medical Association will continue to extend its usefulness and maintain its high reputation; and, in addition, that we may ere long have a common standard of medical education in Canada, with reciprocity between our different provinces, and also reciprocity between our Dominion and the mother country.

# ABDOMINAL AND PELVIC OPERATIONS FOR THE RELIEF OF CONDITIONS INCIDENT TO THE PUERPERAL STATE.\*

By JAMES F. W. ROSS, M.D.,

Surgeon to Toronto General Hospital, St. John's Hospital for Women, and St. Michael's Hospital,  
TORONTO.

THE subject under discussion is apt to be of interest to the general practitioner, and deals with questions that are liable to occupy any day a few hours of his life. It is not my intention to give you a very learned dissertation upon the various conditions of which I intend to speak, but a summary of my experience, and on this account I must ask you to bear with many imperfections.

## FIBROID TUMORS AND PREGNANCY

Of all the curious tumors that grow grafted anywhere on the human being fibroid tumors are among the most curious. I have met with these tumors in all the various positions in the pelvis in conjunction with pregnancy in its early weeks and on up to term. The degree of the gravity of the case varies according to the situation of the tumor. When such a tumor is found in a young married woman who has never borne a child the prophylactic treatment to be adopted to prevent pregnancy is the removal of the ovaries and tubes; thus pregnancy will not occur, and early miscarriages, premature labor, and labor at full term, with all their accompanying dangers, will be avoided. But cases are met with that seem to stay the hand of the surgeon.

I on one occasion delivered a lady, the wife of a physician, with great difficulty of her first child. There was a large fibroid tumor situated on the fundus of the uterus at the time of this confinement. After a very prolonged illness she convalesced. In spite of every precaution there was septic infection. A gradual diminution in the size of the tumor followed. At the time of her second confinement the tumor had almost entirely disappeared. She was then delivered without difficulty. In this case the operation of oophorectomy would have saved the patient from a

\*The address in Midwifery, read at the twenty-ninth annual meeting of the Canadian Medical Association held at Montreal.



dangerous illness, but would have cheated the world of another human being.

Another lady was seen in consultation during a miscarriage. The hæmorrhage was terribly severe, and a great deal of difficulty was experienced in removing the placenta. She made a good recovery, and becoming again pregnant a short time after consulted her attending physician and asked him to produce abortion. We consulted about the matter and decided to leave nature alone. She has since been delivered of a living child and made an easy recovery.

Another case may well be related in this connection, as it is one of considerable interest. A lady from South Africa married late in life. She was thirty-eight or forty years of age and had been married two years. I found a large abdominal tumor with two abdominal nodules and one pelvic nodule, and between them what I considered a pregnant uterus. She was pregnant about three months. The fibroid tumor had been growing with great rapidity, and two of the nodules were each as large as a child's head. Having performed Porro's operation on two previous occasions I decided in this case, with the consent of the patient, to adopt more conservative measures, and, with every antiseptic and aseptic precaution, I induced abortion. The placenta was removed, with the patient under chloroform, without any great difficulty. The uterus was then packed with iodoform gauze, and an excellent recovery followed. She was advised to return when stronger to have the tumor removed, but did not do so. Several years after I learned the sequel. She was persuaded to place herself in the hands of some of the quack curers, and, while rubbing salve on her back and filling her vagina with inert suppositories, the tumor, as a consequence of the stimulation afforded by the involution of the uterus following miscarriage, began to disappear. The patent medicine people scored a great victory, but were unable to give the true scientific explanation of the reduction in size of the tumor. The patient became again pregnant and was delivered of a living child.

In the light of this experience one must carefully weigh the question before deciding on the performance of Porro's operation or of oophorectomy in young women suffering from fibroid tumors. All cases of abortion and labor are not as easily terminated as the above-mentioned cases would lead one to suppose.

I was recently called to see a patient by Dr. Miller, of our city. He stated that she had been delivered by himself, with a great deal of difficulty, of a dead child, owing to the presence of a tumor in the pelvis that was obstructing delivery. The patient barely escaped with her life, and as she was now pregnant again he desired to have my opinion regarding the desirability of inducing abortion. On examination I found a

fibroid tumor the size of a child's head in the right lower abdomen, another of the same size in the left lower abdomen, and a third tumor of equal size blocking up the pelvis. Between these tumors was evidently a pregnant uterus; the pregnancy had advanced to about the fourth month. I advised the induction of labor; this was carried out by means of a sterilized bougie, and the fœtus in due time was delivered. The placenta remained in utero for twelve hours, until after my return from the country, as I was out of town. There had been in the interval no attempt on the part of the uterus to expel the placenta. After Dr. Miller had administered the chloroform I proceeded to remove the placenta. The knees were well drawn up into the lithotomy position and the interior of the uterus explored. It felt like a collapsed india-rubber bag that was being pressed together by three large balls, one to the right, another to the left, and another below. Even after the introduction of the hand into the vagina it was impossible to reach the fundus. By means of a pair of long placental forceps the placenta was picked away piece by piece. The operation consumed three hours. Several times I felt like desisting. The curette was used, but to little purpose. Forceps of different kinds were used, but the placenta remained very adherent and broke away in small pieces. The tumors were rotated in different directions in an effort to reach the point of attachment of the placenta with the finger. At last the two upper tumors were rotated one by one towards the front of the abdomen while the hand was inside the vagina, and in this way the fingers inside the uterus almost reached the fundus. The sulcus behind was not explorable with the finger. At last I decided that the two upper sulci were emptied of placenta, and trusted to luck for the emptiness of the posterior one. The uterus was then washed out with an antiseptic solution and packed with iodoform gauze. The patient made an excellent recovery. I had no idea that the removal of the placenta could be as difficult an operation. A complete hysterectomy would have been an easy task compared with the removal of the placenta in this case.

You will see that there are almost insurmountable difficulties to be met with in endeavoring to deliver as early as the fourth month *per vias naturales*. But parturition at a later date is a much more dangerous affair. The death of the child is liable to occur, and many of the mothers succumb.

In looking through the literature on this subject it is painful to read the accounts of the treatment adopted in many cases. Women who have been attended by their physicians for days, in the hope that some fortunate circumstance may perhaps assist in the delivery, are placed in the hands of the abdominal surgeon when too far gone to withstand the shock of any delivery through the anterior abdominal wall. I am satisfied that

there is less shock from the delivery through the anterior incision than there is when the foetus is pulled by main force down through the parturient canal, when the tissues are terribly bruised, and the placenta, that is adherent over the surface of the tumor, is in all probability but partially removed. Even when there is no great difficulty in the act of delivery itself the patients are in greater danger than those who have no fibroid tumor present in the uterus at the time of pregnancy. I saw one case die after nine weeks of septic inflammation. She had a small fibroid tumor in the uterine wall that became inflamed on the ninth or tenth day after delivery, and suppurated. I have seen large fibroid tumors suppurate on two occasions after delivery, and in these two patients the convalescence was very much prolonged. The discharge from the fibroid down through the uterus produced in each case excoriation of the external genitals and vagina, and when brought to the hospital they were in what one would call a filthy condition, not from any fault of their own, but as a consequence of the foul discharge.

The early emptying of the uterus has, in my hands, been satisfactory. But, owing to religious and moral feelings, some mothers may refuse to sacrifice the foetus in utero for the sake of saving their own lives. When this is so, pregnancy must be permitted to proceed. When pregnancy has advanced to the later months, craniotomy, embryotomy, or difficult forceps delivery should not be thought of for a moment. If the patient can be delivered by the production of a premature labor that can be terminated without great instrumental force, and with a fair chance of saving the child, it may perhaps be tolerated; but if, under other circumstances, craniotomy or embryotomy or difficult forceps delivery are under consideration on the one hand, while delivery through an abdominal incision is under consideration on the other, the indication to my mind must always be in favor of an abdominal operation.

There is no reason why such patients should be allowed to become almost collapsed before these questions are taken up and carefully considered. There must always be weeks of waiting before the onset of labor, and it is in this interval that the attending physician must exert himself to place his patient in a position of safety. Plans can be matured and arrangements made with deliberation and without hurry. The fact that occasionally patients are safely delivered by the efforts of nature, or by the use of forceps after days of suffering, is no argument that such a delivery is the one that is most desirable. Though some are thus safely delivered many will die. That they recover after such terrible bruising of the parts and after suppuration of the tumor is more the exception than the general rule.

At the time of abdominal delivery another question will arise. Shall we



remove the child alone by Cæsarean section? Shall we remove the child by Cæsarean section, and also the ovaries, to prevent subsequent fecundation? Or shall we remove partially, or entirely, the uterus with ovaries and tubes? I would now prefer total extirpation of the uterus, having perfected the technique of total hysterectomy. The presence of the fibroid after the uterus has been emptied must always be a menace to the patient whether the ovaries and tubes are present or not.

Fibroid tumors are met with in the vagina growing from the cervix uteri. One reads of what appears to be a brilliant result of an operation performed by one who, perhaps, considers himself a very brilliant operator. As a consequence of his audacity, such an operator will attack a fibroid tumor whether it is situated in the cervix of a pregnant uterus or growing from its wall into the abdominal cavity. The tumor is removed and the pregnancy is allowed to go on to full term, if nature permits it. In many cases nature objects, and the woman miscarries and dies. The accounts of such operations would be better unpublished. Of fifteen cases of removal of fibroid tumors during pregnancy five died, a mortality of  $33\frac{1}{3}$  per cent. Why such operations should be undertaken in these modern days I cannot understand.

It has occasionally happened that these fibroid tumors, growing from the cervix, contrary to the expectation of those in attendance, have been drawn up during the progress of delivery, and the foetus has been permitted to pass into the vaginal canal. Enucleation of such a fibroid at the time of labor must greatly increase the danger to the patient, and should not be undertaken when abdominal delivery can be carried out with so little risk.

#### OVARIAN CYST AND PREGNANCY.

After delivery the abdomen may not diminish in size, and the doctor is somewhat puzzled. On careful examination he finds the uterus reduced and empty, and a mass lying to either one side or the other in the abdominal cavity. The patient has completed her pregnancy, and been successfully delivered, while carrying an ovarian tumor. It is fortunate for some of them that the ovarian tumor is not discovered until after delivery. With the modern craze to do abdominal surgery, ovarian cysts have very short shrift. From my own observations I am satisfied that it is safer to leave such ovarian cysts untouched until after delivery has been accomplished, unless the life of the patient is seriously threatened by their presence. It is not often that the life of the patient is seriously threatened by the presence of such an ovarian cyst.

It is sometimes a matter of marvel to find an abdomen enormously distended and the patient but slightly inconvenienced. We have all seen ovarian cysts containing many gallons of fluid. Patients may live for

months in this distended condition. The breathing becomes embarrassed, the feet become swollen, but yet they are able to live.

It is, no doubt, very pleasant and very gratifying to find that the pregnant uterus behaves itself after an ovarian cyst has been removed from its side. But such pleasant surprises are frequently turned into mournful regrets when the woman, who was suffering but little, miscarries on the third or fourth day after operation and dies. The ovarian cyst is not like the fibroid tumor, prone to inflame after delivery. A pregnant uterus may be very much irritated by an abdominal operation, but an ovarian cyst is very little affected by a uterine delivery.

I always regret the termination of one case of ovarian cyst accompanying pregnancy. The patient was a strong, healthy woman. Three of us saw her in consultation. We diagnosed the condition present. She had a large ovarian cyst, and was in about the sixth month of pregnancy. Operation was decided on, and in the endeavor to remove the ovarian tumor the surgeon who was operating nicked the uterine wall with a scalpel. The uterus was considerably handled, in order to keep it out of the operator's way. I thought at the time that the uterus should be emptied, but this was not done. Subsequent to the operation the patient miscarried and died.

When life is seriously threatened nature will endeavor to empty the uterus, just as she does in the case of uræmic poisoning and of great emaciation induced by the persistent vomiting of advanced pregnancy. If nature, under such circumstances, fails to bring on labor, she can surely be assisted, and labor can be artificially induced without any very great amount of risk. The tumor can then be dealt with at a later date.

I have on four occasions operated on women a few weeks after confinement. In one case the operation was done for the relief of an enormous ventral hernia, and on two occasions for the removal of ovarian cysts. The infants were brought to the mothers three or four times a day to nurse, and they were fed at night-time. In one case the milk entirely disappeared after a few days. In the others the flow was diminished for a time, but again became abundant. The patients all made excellent recoveries. It is unnecessary to wean the children, and endanger their lives in the middle of a hot summer, before submitting the mothers to an abdominal or less serious operation.

The greedy surgeon can surely wait for his abdominal operation until after the obstetrician has delivered the woman. Some men, rather prominent in the profession, tell us in a general way that it is easy to open the abdomen, to remove the cysts, and allow the pregnancy to proceed to term. This may be all very well for the surgeon, but is it best for the patient? In the presence of an ovarian cyst with a twisted pedicle,

whether accompanied or not by pregnancy, all must admit that abdominal operation is generally demanded. But ovarian cysts do not become twisted more frequently in cases in which pregnancy exists than in cases in which the uterus is empty.

If puncture of an ovarian cyst is considered necessary it should be set aside for the induction of premature labor or ovariectomy, because puncture should never be performed unless the cyst is impacted in the pelvis and seriously obstructs the progress of labor. There are three methods of procedure when a cyst is impacted—first, abdominal section on the mother; secondly, mutilation of the child; and, thirdly, puncture of the cyst. Some cysts can, of course, be tapped from the vagina and the difficulty can be removed, but now and then a cyst will be met with in which there is either colloid material, or fibroid material, or dermoid material that will not readily disappear after puncture.

On one occasion I assisted to tap through the vagina such a colloid tumor of the ovary pressed down in the pelvis, and the patient made a complete recovery. The operation can easily be carried out, and then the opening can be made large enough to permit of the flow of thick material. Mutilation of the child should certainly not be undertaken. If abdominal section on the mother is performed, in such a case it will be necessary to remove the uterine contents before the tumor can be reached. The removal of the entire uterus can scarcely be justifiable in such a case; the other ovary, if healthy, may permit of future pregnancy. It must be remembered that occasionally a distended Fallopian tube may interfere with the progress of labor.

#### HYDRAMNIOS SIMULATING OVARIAN CYST WITH PREGNANCY.

There is a condition of the pregnant uterus that frequently simulates the presence of an ovarian cyst with a pregnant uterus, namely, hydramnios. It is an uncommon condition. Three cases have come under my observation. I do not here refer to cases in which the amniotic fluid is large in quantity, but to cases in which it is so great in amount as to give rise to definite symptoms. One case I saw was under the care of a surgeon of note. The case was diagnosed as one of ovarian cyst, and an abdominal operation was decided on. Just before undertaking the operation a further examination was instituted. A sound was passed into the uterus, the membranes were ruptured, and a free gush of amniotic fluid at once demonstrated the erroneousness of the diagnosis. Notwithstanding this fact a supravaginal hysterectomy was performed. I considered the operation an unnecessary mutilation, and, as a consequence, made a careful search through the literature of the subject to endeavor to find something to justify such a procedure, but without success.



In these cases the diagnosis is sometimes difficult. Ballottement is not easy to obtain. In some cases the abdominal walls are so tender that the patients can scarcely bear the weight of the bedclothes. In others, where the filling with fluid has been very acute, the temperature is elevated, and the disease has an inflammatory appearance ; the pulse becomes accelerated.

Of McClintock's thirty-three cases four died after labor. Other authors, however, Caseaux, Leischman, and Charpentier, considered that the performance of puncture of the membranes through the vagina was followed by good results to the mother.

I bring this subject before you owing chiefly to a personal experience. I was asked to see a patient who was supposed to be suffering from an ovarian tumor accompanying pregnancy. Operation had been decided on. After carefully examining the patient, I was forced to differ from my confrères, for to me the case appeared to be one of hydramnios. There was something puzzling about it. The cyst was monolocular, and the uterus was apparently absent. A line of demarcation could be made out down the front of the tumor separating two pyriform masses with soft walls, but, notwithstanding this fact, the fluctuation wave could be felt distinctly from side to side and from below upwards. Bringing to mind the previous experience already related above, I strongly advised a preliminary puncture of the membranes from below. This was done, and an immense quantity of fluid escaped from the uterus. The patient was readily delivered next morning of twins, and made an uninterrupted recovery. There was no ovarian tumor present. The twins were, as is frequently the case, stillborn. The depression between the placenta and the foetus and the presence of a second foetus produced a peculiar condition of the uterus noted in front.

The main point in the differential diagnosis between ovarian cyst and pregnancy and hydramnios was the universality in the wave of fluctuation demonstrating the fact that the tumor was monolocular. In any such cases in which there is a reasonable doubt puncture of the membranes from below should be carried out before any attempt is made to remove the cyst by cœliotomy.

#### PELVIC CONTRACTIONS AND PREGNANCY.

The subject of craniotomy versus Cæsarean section has been discussed so much that there is nothing new to add. Neither operation is likely to meet with what should be its full measure of success, because the patient is only attended to when almost in a moribund condition from her prolonged sufferings. To perform craniotomy before this period has been reached is, from the very fact that the foetus will in all probability be alive as the patient is not exhausted, loathsome in the extreme. As Barnes

says: "In the whole range of the practice of medicine there arises no situation of equal solemnity." When the child is dead there can be no particular objection to the operation of craniotomy, and it is not likely to be of much use, because, whether craniotomy be performed or Cæsarean section be carried out, the mother is in many cases already beyond hope of recovery. To my mind, this should be one of the strongest arguments in favor of Cæsarean section, an operation that aims at saving the life of both mother and child.

I have several times been called in consultation to see cases in which the operation of craniotomy had either been instituted or carried out, and have been obliged to stand by and see the patients gradually sink from shock. When called in to see such women the pulse generally ranges between 130 and 140, and they are completely exhausted. They generally die within twenty-four or thirty-six hours after delivery. There is no reason why Cæsarean section should not be performed on a strong woman before exhaustion has set in from prolonged labor, with as much success as the abdominal surgeon performs hysterectomy or Porro's operation. The pregnant condition should not increase the rate of mortality.

In the minds of all thinking men a final decision has no doubt been arrived at, and nothing can be gained by any further discussion of the subject. But, notwithstanding all that can be urged, craniotomy will still be performed by a few. Craniotomy and Cæsarean section, if done early, are equally safe to the mother, but not equally safe to the child. If performed late they are equally dangerous to the mother, but not equally dangerous to the child. Therefore, whether performed early or late, the position as regards the mother is but little altered, while the child has everything to gain from Cæsarean section and everything to lose from craniotomy. The choice between the two procedures must depend to some extent on the religious and moral feelings of the parent and the humane scruples of the practitioner. To thrust a perforator into the brain of a living child must always be a revolting procedure. Above all, let me urge in cases of difficult labor or pelvic contractions early consultation with other practitioners, because the early moments are the golden moments, and the lives of two human beings hang in the balance.

#### PREGNANCY AND INTRA-ABDOMINAL DISEASE.

If an inguinal or femoral hernia becomes strangulated in a pregnant woman and cannot be reduced by taxis operation is imperatively demanded. In such a case the question of emptying the uterus cannot for a moment be entertained. The uterus is not handled, the abdomen is scarcely opened, the incision is not in the median line, and the patient is therefore not likely to miscarry. But there are other cases in which the ques-

tion of emptying the uterus at the time of performance of abdominal operation must be carefully considered.

Some months ago I was called to see a patient who, three years before, had been operated on for the removal of an ectopic gestation. I found her six or seven months pregnant. On the day previous she had been taken suddenly ill with an acute abdominal pain. The doctor in attendance thought that the acute pain must have some connection with the previous operation, and that the uterus had perhaps ruptured at the cornu where the tube had been removed. Vomiting set in and was persistent and stercoraceous. We advised immediate removal for operation. She refused, and thus a delay of two days occurred. The patient, then feeling much worse, consented to an abdominal operation. She was removed to the hospital, where the abdomen was opened, but by this time she was scarcely in a condition to withstand any serious shock. A coil of intestine was found strangulated beneath a band and released. The uterus was enlarged to about the sixth or seventh month of pregnancy. The released intestine was very dark in color, but still glossy. The patient improved until midnight, when she began to miscarry. The uterus was emptied, but she began to sink and died at 6 a.m. For a few hours after the relief of the strangulation her condition improved and vomiting ceased. I am satisfied that the extra physical strain and loss of blood incident to the emptying of the uterus militated greatly against her recovery.

In this case it is perhaps not likely that she would have recovered, even if the uterus had been emptied at the time of the operation. There had been too much delay. But still the question must present itself to us in certain cases that if called upon to operate for intestinal obstruction by bands, volvulus, intussusception, perforated appendix, ovarian cyst, with twisted pedicle, on a woman in a pregnant condition, whose uterus contains a fetus at about the fifth to the eighth month, is it wiser to leave such a uterus to empty itself subsequent to operation, or to empty it at the time of operation by means of Cæsarean section? I believe that if the patient's condition warrants a somewhat more prolonged operation than that necessary to relieve the exact condition for which abdominal section has been performed, her best interests will be served by rapid, careful, and a thorough evacuation of the uterus by the abdominal route. She will then have nothing to contend with after the usual shock of operation and danger of peritonitis is passed.

#### RUPTURE AND PERFORATION OF THE PREGNANT UTERUS.

In connection with this subject I beg to call your attention to the close similarity of the symptoms accompanying three conditions that are commonly met with and that may require abdominal section. The first of



these is gonorrhœal endometritis and salpingitis; the second is ruptured ectopic gestation; and the third attempted abortion with perforation of, or intraperitoneal escape from, a pregnant or a non-pregnant uterus.

There is such an endeavor to conceal the truth in these cases in which abortion has been attempted that we are very liable to be led astray, and to diagnose either of the other conditions mentioned in this connection. We are thus liable to be induced to open the abdomen.

The diagnosis of gonorrhœal endometritis is surrounded with difficulties. The exact facts of the case are either unknown or untold. An eminent authority has said that he would not believe a woman on her oath when it suits her purpose to conceal the truth. Neither married nor unmarried women are to be relied on. After they have endeavored to procure an abortion on themselves, or after an attempt has been made to procure abortion on them by others, it is difficult to wring the truth from them. Even the husbands are not made aware of the true cause of the illness. We are frequently asked by such patients to conceal the facts from the husband. In the section from which I draw my patients this instrumental interference with pregnant uterus is becoming more prevalent. Catheters, crochet needles, pen handles, knitting needles, intrauterine injections, are among the various popular means of producing miscarriage. I am satisfied that a perforation of the uterus is frequently occasioned, and that occasionally fluids are forced through the Fallopian tubes into the peritoneal cavity. These perforations usually occur on the left side, because they use the instrument in the right hand. The thickening is usually found on the left side. The injection of fluid is most dangerous in a case in which pregnancy does not exist. The patients suspect they are pregnant because they have gone two or three days over the usual period.

I have carefully prepared a table setting forth the differential diagnosis between acute gonorrhœal endometritis and salpingitis, ectopic gestation and attempted abortion. From a careful scrutiny of this table it can be seen that it is an easy matter to be led into error. Such errors may either precipitate a fatal termination or lead to a fatal procrastination. I have often been puzzled in attempting to unravel cases of attempted abortion. Some of the modern women are wise enough to anticipate the questions of the physician, and to give evasive answers.

|                               | ACUTE GONORRHEAL ENDOMETRITIS.   | ECTOPIC GESTATION.  | ATTEMPTED ABORTION.   |
|-------------------------------|--|---|---|
| Previous health.              | Good.  | Perhaps history of previous attack of inflammation and sterility.   | Good. Very likely had children fast if married.   |
| History of discharge. Menses. | Matterly discharge, perhaps swelling of labia. Menstruation profuse, commencing perhaps at irregular time, and lasting for ten days to three weeks. No period missed. Discharge not offensive. | No matterly discharge. A period missed, then irregular discharges of blood, more or less profuse. Discharge not offensive.  | Leucorrhœa. No swelling of labia. A period missed, perhaps only one or two days. Then discharge of blood lasting indefinite time as instrument is often introduced at frequent intervals in desire to bring something away. Patient towards last becomes more desperate and uses more force. Discharge often offensive. |
| Pain.                         | Gradually growing worse.   | Spasmodic. At times very acute. Spreads over a considerable portion of time. Sometimes only one sudden severe pain.   | Sudden pain, perhaps followed by spasmodic pains, over a considerable period of time.   |
| Collapse.                     | Not collapsed.   | Often collapsed at time of rupture and at each successive hemorrhage.   | A partial condition of collapse. If from escape of irritating fluid injected into uterus through Fallopian tubes, definite collapse found, but it does not recur.   |
| Temperature. Pulse.           | Elevated. Often simulates typhoid. Not rapid, unless general peritonitis present.  | Not very high. Varies. Rises with each hemorrhage into peritonium. Goes up suddenly and comes down quickly.   | Very high. Simulates typhoid. Very rapid, hard, inflammatory. Remains up.   |
| Rigor.                        | No rigors as a rule.   | No rigors at this period.   | Rigors present.   |
| Appearance—Face.              | Not much altered.  | Pale. Pupils generally dilated.   | Anxious. Often slight delirium. Flushed, as if in high fever.   |
| " —Skin.                      | No perspiration at first. Dry skin.  | Sallowish. Intermittent perspiration. At times bathed in perspiration.  | Intermittent perspirations, coming chiefly after chill.   |
| —Abdomen.                     | Distended, if peritonitis general. Muscles tense, tender.  | Slight puffing. Perhaps resistance from intra-peritoneal clot. Shifting dullness as clots shifts with patient's change of position. Not very tender.  | Slight puffing at this stage. Vermicular action of intestines can frequently be seen. Distinctly localized tenderness simulating, if on the right side, appendicitis.   |
| " —Breasts.                   | No enlargement. No change.   | Perhaps enlarged and changed. Often had a period of sterility.  | Perhaps enlarged and changed. Often still nursing last child.   |
| Position.                     | On back. Feet drawn up. Does not care to move much.  | Restless. Turns from side to side.  | Assumes any position. Perhaps dragging pain if lies on one side.  |
| Vomiting.                     | At first not persistent unless general peritonitis.  | Not a marked symptom.   | Irregular vomiting after taking food. Not persistent. Vomiting may have been present before as a consequence of pregnancy.  |
| Onset of symptoms.            | Definite history usually given. No apparent reserve, as patient frequently has no idea of cause of trouble.  | Definite history given. No reserve. Onset usually definite. No particular anxiety at non-appearance of menses.  | No definite history given. Evasive answers. Contradictory statements. Though history tallies closely with that of ectopic gestation it lacks definiteness. Occasionally, if carefully questioned, shows that she was anxious at non-appearance of menses.   |
| Digital examination.          | Matting of parts on each side of uterus. Uterus somewhat fixed.  | Mass on one side of uterus and behind. Clot may occasionally be felt breaking down under finger. Boggy feeling. Uterus perhaps slightly enlarged.   | Mass usually on left side of uterus. I think from use of right hand in passing instrument, thus perforating fundus at left side. No boggy feeling. No clot felt.  |
| Bladder. Rectum.              | Frequent history of irritability of bladder. Sometimes gonorrhoical proctitis, and rectal tenesmus, with passage of blood-stained mucus.   | Irritability of bladder, not a marked symptom. Often constipation and sometimes rectal tenesmus. No blood with any mucus passed. Were a desire to have bowels moved with ability to defecate. | Irritability of bladder not a marked symptom. Often septic diarrhœa.  |
| Health of husband.            | Often has had inflammation of kidneys or bladder (so-called).  | Good.   | Good.   |

When unable to make the symptoms fit in accurately with those of ruptured extrauterine pregnancy or gonorrhœal endometritis, I usually conclude that, in spite of all denials, there is something that is being held back, and that, in all probability, some intrauterine interference has taken place. In such cases it is wise to stay the hand and refrain from advising an immediate cœliotomy. Within another twenty-four hours some little incident may crop up that will finally settle the diagnosis. At more than one consultation I have been able to obtain the information during the absence of the family physician from the room. They will sometimes tell the consultant what they are ashamed to tell the family physician. On one occasion I fortunately taxed the husband with having had an attack of gonorrhœa, and with having infected his wife, when, to save himself, he broke the seal of secrecy and admitted that his wife had on several occasions used an instrument to bring on miscarriage. The symptoms of this case pointed strongly to a diagnosis of ruptured extrauterine pregnancy, and I was about to advise an early abdominal section. The patient herself had denied everything.

In these cases death occurs in one or two ways—either from general peritonitis that is rapidly fatal, or from a condition of septicæmia, with high fever, rigors, and a rapid pulse. In the case of acute general peritonitis it seems impossible to accomplish anything by operation. I have operated on a few such cases, but have failed to save life. I have never yet removed the entire uterus and appendages for the relief of the second condition of septicæmia. As a rule, they will be too far advanced to benefit from any operative procedure. The physician in attendance is misled for several days, and valuable time is lost.

I desire now to draw your attention to what I consider is an unique procedure for the treatment of rupture of the pregnant uterus. A patient suffering from rupture of the uterus is usually collapsed, and can ill afford to stand the shock of a long-continued operation. There are two indications: First, to remove the blood from the interior of the abdominal cavity; and, secondly, to drain the uterine cavity and the site of the laceration.

I was called to see a patient with rupture of the uterus following miscarriage at the fourth month. In examination through the vagina the finger could be passed through the posterior uterine wall into the abdominal cavity, and the intestines could be felt. Twenty-four hours after the rupture took place I opened the abdomen, washed out blood from under the liver and spleen and from among the intestines, and then examined the uterus. A large rent was found extending from the left cornu down into the base of the broad ligament on the right side. The patient was in a shocked condition, and I considered it advisable to complete the operation as speedily as possible. The edges of the tear were too ragged and friable to permit of stitching. I decided that there would



be, in all probability, some sloughing of these edges. Having frequently performed hysterectomy and drained down through the vaginal vault after removal of the cervix with a rope of iodoform gauze, I concluded that this would be good treatment in the present instance, and, therefore, passed up a pair of forceps through the vagina, opened the blades, and caught a rope of iodoform gauze and drew it down through the laceration on the posterior surface of the uterus. After sufficient had been drawn down the upper end of the gauze was cut off level with the peritoneal surface of the uterus, thus leaving a plug of gauze filling up the uterine tear, the uterine cavity, and the vagina. A drainage tube was then placed in the cul-de-sac of Douglas from the front. In this manner the interior of the uterus and also the peritoneal cavity were drained. The bleeding from the tear in the uterine wall had ceased. Before the operation was performed the pulse was gradually rising until it had reached 120, and distension of the abdomen was setting in. At the time of operation the intestines were partially distended and the peritoneum looked reddened and angry and the omentum was thick and oedematous, conditions that indicated the first stage of peritonitis. The patient made an uninterrupted recovery.

On two occasions I have been called in to operate on women with rupture of the pregnant uterus at full term. In each instance the patient has been found in a dying condition. Since the experience related above I am satisfied that a case of rupture of the uterus can be rapidly dealt with in the manner I have indicated. Time will thus be saved and shock diminished. Careful stitching of the ragged edges will often be impossible, and, I believe, will always be an unnecessary procedure. Unless these patients are *inarticulo mortis*, in the light of my experience I believe operation should be performed. In skilled hands but a few minutes will be consumed in its performance.

Because a patient occasionally recovers after rupture of the uterus and extravasation of the placenta or the child into the folds of the broad ligament, or into the abdominal cavity, we have no right to argue against operation in these days of modern aseptic surgery, when the abdomen can be opened with so little risk. From my own experience I find that the peritoneum, in many cases, does not tolerate the presence of blood, even when it has escaped in only a comparatively small quantity. Some cases of ectopic gestation, in which the sac has ruptured and a small quantity of blood has been poured out into the abdominal cavity, are shocked out of all proportion to the amount of blood lost. I believe that this excessive shock will also be noted in many of the cases of ruptured uterus. There is a great similarity of symptoms in cases of intraperitoneal hæmorrhage.

At some future meeting I will endeavor to finish the subject, as my address has already passed the normal limits.

## HÆMORRHAGIC PANCREATITIS.\*

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I AM indebted to the kindness of my friend, Dr. H. T. Machell, of Toronto, for the privilege of reporting this interesting case. The history is from notes by the father, who is himself a physician.

Douglas G., aged nine months, had been a healthy babe, weighing 10½ lbs. at birth, and developed well until his illness. During the first three months he had a great deal of colic, the motions often containing curds. The bowels, although the motions were never constipated, always required some stimulus to excite them to act. A glycerine suppository was generally used. The motions were soft and yellow. In the ninth month they became more liquid, and contained a great many small yellow fatty-looking particles. The mother's milk was examined, and found to contain a great amount of fat. He had always been a placid child, but in the ninth month he became fretful, and his general condition failed slightly. The mother having become pregnant, it was decided to wean the child; and milk prepared with peptogenic milk-powder was given, but he refused everything but the breast. In those days he took not more than eight ounces of milk, and the attempt to feed him was abandoned, as vomiting had occurred. During the following night sudden profuse vomiting occurred, and all nourishment was stopped for some hours. He was purged with calomel, followed by castor oil. His motions were slightly green, and contained many solid particles. There was no elevation of temperature nor thirst.

Next day (November 14, 1895) he was better. He vomited occasionally, and had a severe attack of colic; calomel was repeated, and a small dose of paregoric given. He was not nursed. He slept fairly well. The temperature was slightly subnormal.

Next morning (November 15) he passed a large soft yellow motion, and appeared well. He sat up and played with toys. He did not want the breast until nearly noon, when he took it greedily, and again in three hours. Later he vomited again profusely, was prostrate, and inclined

\* Read by title at the meeting of the Canadian Medical Association, Montreal, August 26, 1896.

to lie quietly. In the evening he became fretful, and had a severe attack of colic lasting an hour, with tenderness over the epigastrium. Paregoric was given to relieve the pain, and calomel, followed by repeated doses of fluid magnesia to move the bowels, but without effect. He appeared to have no pain and showed signs of prostration.

The following morning (November 16) he was weak and listless. Attempts to give nourishment were followed by vomiting. He had an attack of pain, but not so severe as on the preceding day. Towards evening he grew rapidly worse. All efforts to move the bowels failed. When I saw him with Dr. Machell, the medical attendant, he was in great distress and very pallid. The temperature was slightly elevated; pulse weak and rapid. He was constantly moaning and tossing about, and from time to time straining considerably. The thirst was very great. In his napkin there was a small, green motion, chiefly mucus, with traces of fecal matter. This was the only motion that day, although he had had repeated doses of strong purgatives. The abdomen was slightly distended, and examination of it revealed nothing unusual, except in the region of the ascending colon, where there was an elongated mass about the size of the middle finger, and extending from the costal margin to a point nearly as low as the iliac crest. It was firm, moved with respiration, and was dull on percussion. The abdomen elsewhere was tympanitic. The resemblance of this sausage-like mass to that in intussusception, the failure to move the bowels even with strong purgatives, the straining and vomiting, seemed to render operation advisable, as the only hope of giving relief. In this opinion the father acquiesced, and Dr. George A. Peters operated. On opening the abdomen the mass was found to be an accessory lobe of the liver. The intestines were everywhere healthy, and there was no exudate in the peritoneal cavity. The incision did not admit of examination of the other abdominal organs. Death occurred next morning.

The probability of the illness being hæmorrhagic pancreatitis was suggested, and this was confirmed by the autopsy, in which only a partial examination of the abdomen was permitted. The middle third of the pancreas and its immediate surroundings were found deeply infiltrated with blood, but neither the head nor the tail were affected. There was no extensive clot. All other abdominal organs were healthy.

As the autopsy was not done until forty hours after death, the pancreas had become so much disorganized by post-mortem change that nothing could be determined from the histological examination, further than that the tissue was infiltrated with blood. There were cells among the stroma, but they were not recognizable. The pancreas undergoes such rapid changes after death that an early inspection is necessary to render the histological examination of value. The disintegration of the pancreas will, doubtless, be especially rapid in children.



A bacteriological examination was made by Mr. J. J. Mackenzie, B.A., bacteriologist to the Provincial Board of Health. The only organism present was a bacillus resembling the proteus group in growth and characters. Inoculation on rabbits and guinea pigs showed that it possessed a very low degree of virulence. The bacillus colli communis could not be found, though carefully sought for.

This case presents a fairly typical picture of acute pancreatitis—as typical as could well occur in an infant. The pancreatic disease probably began on the 15th, two days before death, the history preceding that day being that of gastro-intestinal indigestion only. On the 15th he had a severe attack of colic, followed by marked prostration; this recurred again next day, and in the evening became extreme. There was some vomiting, and for the last forty-eight hours the bowels could not be made to act, even with strong purgatives. There was extreme distress during the last night, with low fever, great thirst, weak pulse, and, finally, collapse.

The age is unusual for the disease to occur; there are no cases recorded of the disease in infants. Of all the cases reported the youngest is about 20 years, and the majority are about 45; some have been of advanced age. The majority of cases occur in males who have been more or less intemperate and have become very fat.

In most cases there is a history of gastro-intestinal derangement extending over varying periods, often for years, and, while the cause of the disease is still uncertain, the general opinion is that it has its starting point in inflammation of the stomach and duodenum, from which the infecting agents gain access to the pancreas by the duct or otherwise. Against this view, however, is the fact that in the majority of cases bacteriological examinations of the pancreas have been negative. In this case only a bacillus of very mild infective character was found.

Few organs in the body are less liable to disease than the pancreas. Owing to its position it is seldom injured, and constitutional infections and disturbances rarely derange its functions materially or injure its tissue. The organ itself is not sensitive, nor is the constitution acutely disturbed by derangements of its function. Recent observations have shown that many, if not all, gland structures furnish to the economy an "internal secretion," in addition to the more manifest functions which they may possess. In the case of the pancreas the arrest of the supply of pancreatic fluid, as well as of that of its "internal secretion," could produce only a gradual disturbance of health. It is probable, therefore, that to the implication of neighboring structures, especially the retro-peritoneal ganglia, and consequent dilatation of the abdominal vessels from vaso-motor paresis, is to be attributed the fulminant symptoms ending in collapse, and even sudden death in many of these cases. In the reports of these cases

we read such records as "found dead in bed," or "in a chair as if asleep."

In his Middleton-Goldsmith lecture on "Acute Pancreatitis," the most thorough exposition on the subject that has yet appeared, Fitz classifies the fifty-four classes which he collected into three classes: (1) hæmorrhagic, (2) suppurative, and (3) gangrenous pancreatitis. In the main, all the cases since reported may be placed under one of these heads. The case of the infant here detailed may, I think, fairly be designated hæmorrhagic pancreatitis, for, although, owing to unavoidable circumstances, the results of histological examinations do not clearly demonstrate the existence of inflammatory exudate, the symptoms were sufficient to justify such a conclusion.

In addition to the foregoing, Fitz also detailed a class of hæmorrhagic cases in which only extravasation of blood was found post-mortem, and in which there was a history of sudden death from shock, and no symptoms indicating an inflammatory process.

Various explanations have been offered to account for the hæmorrhage. The pancreas has been compared to the brain in the laxness of its tissue and the ease with which vessels will yield to pressure, but even in the brain rupture never takes place in a healthy vessel. Weakening of the vessel wall from some pathologic process must take place before it will dilate or rupture from internal pressure.

Klebs has suggested the possibility of degeneration of the wall of the vessel by the action of the pancreatic secretion. Fat necrosis has been assigned as a cause in those cases in which the necrosis occurs.

As in many cases of pancreatitis there is a great deposit of fat in the tissues, Sticker believes that repeated and increasingly extensive ruptures take place at the root of the mesentery similiar to those occurring in the abdominal wall of very fat people and in pregnancy; that these repeated lacerations interfere with the nutrition of the part, so that ultimately a more extensive rupture occurs, with free hæmorrhage.

The causes of hæmorrhage are probably various, and all these opinions may be true. Thorough examinations of the small vessels of the gland have not yet been made, and at least until that is done in a series of cases the question must remain in doubt.

Disseminated fat necrosis has been very frequently found in association with pancreatitis. It did not occur in this case. It has usually been found in cases in which there was an inordinately large deposit of fat, but it does not occur even in all such cases. Its causation, as well as its relationship to the hæmorrhage, is doubtful. But there is no doubt that either process may occur in absence of the other.

The diagnosis is of great importance, and presents grave, often insuperable, difficulties. As the disease has become better known in recent years, a correct diagnosis has occasionally been made. The clinical history is that of epigastric pain, gradually developed or sudden and severe, it may be agonizing; tenderness; generally some fullness in the upper zone of the abdomen; nausea and moderate vomiting; usually constipation that may resist the strongest purgatives, but there has been diarrhœa in a few cases; marked prostration occurs early; low fever; weak pulse, and, finally, collapse. Death has usually occurred within four or five days. If the patient survives a rapid recovery may result, or suppuration or gangrene may follow. The necrosed mass has been discharged *en masse* into the bowel with ultimate recovery. In a case under my care at present the formation of a large cyst followed the pancreatitis.

The affections with which this disease is most likely to be confounded are perforative peritonitis, especially of the stomach and abdomen, and acute intestinal obstruction. With these may sometimes be included irritant poisoning and hepatic and pancreatic calculi.

In the case here detailed acute obstruction would not have been considered possible but for the malformation of the liver. The vomiting was not extreme, nor did the vomit contain bile, much less become feculent. There was no marked swelling of the abdomen.

Perforation was not deemed possible, because there was no history of gastric or intestinal disease. There was no marked distension of the abdomen or evidence of the presence of gas in the peritoneal cavity; nor was there any initial shock followed by reaction with marked elevation of temperature.

The age excluded the possibility of hepatic or pancreatic colic.

It was not possible to make a positive diagnosis, but, with the exclusion by the operation of acute obstruction of the bowel, the extreme distress evidently due to a lesion somewhere in the abdomen, the moderate distension of the bowels, the failure of strong purgatives to move them, the slight elevation of temperature, and the great prostration, seemed a sufficient ground to justify a probable diagnosis of acute pancreatitis, notwithstanding the age of the patient.

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## Selected Articles.

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### OUTLOOK FOR THORACIC SURGERY BY A TRAP-DOOR OPENING INTO THE CHEST.

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By J. McFADDEN GASTON, M.D.,

ATLANTA, GA.

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INVESTIGATIONS based upon clinical operations and experiments on inferior animals have led to important advances in thoracic surgery during the past decade. It is true that progressive surgery was inaugurated a quarter of a century ago, and bold measures have been adopted in the various processes for reaching the thoracic cavity, but the most effective surgical interferences in disorders of the thorax is of comparatively recent date. Aspiration for the removal of serous or purulent collections in the pleura was followed in a few years by simple drainage through an incision between the ribs and subsequently by drainage through a counter opening. Then came the removal of a portion of one rib to obviate the pressure upon the drainage tube, and for the escape of the purulent collection, while air must necessarily enter the chest.

The collapse of the lungs from the entrance of air in traumatism of the thorax is not followed by the same results as the presence of pus. A space unoccupied by the lungs remains, and an abscess of the pleura persists notwithstanding complete drainage. Under such circumstances excision of a portion of several ribs has been resorted to with a view to obliterate the cavity by approximation of the ribs. Another process has been used by cutting through the ribs anteriorly and posteriorly and removing an angular segment so as to allow the intervening portion of the rib to be pushed inward, and thus lessen materially the cavity within resulting from abscess. Other modifications for the removal of the soft structure of the thoracic wall as well as the ribs have been practised for the obliteration of the space left by a protracted empyema.

There is quite a divergence of views as to the indications for the different procedures, and it becomes a matter of moment to determine in



advance upon the exact pathological condition of the thoracic viscera and the mediastinum.

In order to open the posterior mediastinum a plan was recommended by Quenu and Hartman four years ago for making a vertical incision fifteen centimetres long over the angles of the ribs between the spinal border of the scapula and the vertebral column about four fingers' breadth from the spine, the middle of the incision corresponding to the spine of the scapula or to a point a little below it. On reaching the Trapezius it is possible, by retracting its interior border upwards and inwards, to avoid sacrificing more than a few of its fibres. The ribs are resected for about two centimetres. This small resection of the ribs suffices to permit the hand to penetrate the posterior mediastinum by stripping off the pleura. The opening made in the thoracic wall extends from the interior border of the second rib to the superior border of the sixth. By retraction of the rib it is possible to explore the hilum of the lungs, the aorta, and that portion of the œsophagus which extends along the root of the bronchus to the diaphragm. If the pleura, instead of being stripped off, is incised, the upper lobe of the lung, and even the summit of the thoracic cavity, are easily accessible, much more so, think the writers, than by resection of the ribs below the clavicle.

Looking to a practical outcome of this work, experiments have been undertaken by Wills and Willard on dogs and on guinea pigs to illustrate the tolerance of these animals for various operations upon the thorax. Barring the difference in susceptibility to traumatism between these animals and the human race, the results of these experiments tend to encourage a resort to similar measures in the operations upon mankind.

It should not deter the surgeon from using the knife in certain pathological conditions because of unfavorable showing by experimentation upon the normal structure of animals. It has been proved by clinical results that a tolerance or immunity is imparted to the structures of the body by previous and existing inflammatory processes, so that an operation would be borne well under such circumstances which would not be tolerated in a normal state of tissue. As we are called upon most frequently to operate upon the thoracic viscera after a lapse of some time when changes have ensued in the condition of the tissue, it may be inferred that such modifications have taken place as to lessen the disturbance or shock from an operation.

Observation of the result of diseases and injuries involving the mediastinum demonstrates that operative procedures may now be carried into various portions of the chest with a fair prospect of affording relief to some pathological conditions heretofore regarded as beyond the reach of surgery. Experimentation on animals, though insufficient as a test, has still

shown the feasibility of surgical interference in this comparatively unexplored region. If animals can survive traumatism of the mediastinum from the front and rear of the thorax, as verified by experiments of Lemoyne Wills, of Los Angeles, Cal. ; Dr. Forest Willard, of Philadelphia ; Levy, of Berlin ; and Zakharevitch, of Russia, it is evident that operations may be undertaken for the relief of mediastinal tumors, hydatids, and other morbid developments of this space walled in by folds of the pleura in the central portion of the thorax of man. We cannot as yet give a satisfactory solution of this question, but it is demonstrated by clinical observa-

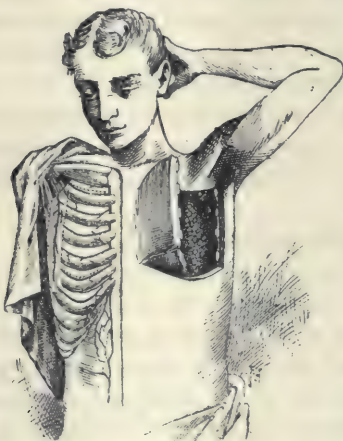


Illustration of right side, from Cloquet. That of left designed by author and executed by artist, Frank L. Henry.

The accompanying figure illustrates the distribution of the blood vessels on the anterior wall of the right side of the chest in a very satisfactory manner. The trunk of the internal mammary artery descending along the costal cartilages is seen to be out of danger even when the cuts are made transversely as indicated by the dotted lines. The long thoracic artery which appears on the posterior lateral aspect of the chest wall lies behind the longitudinal incision from the mid-axillary point, as indicated by the perpendicular dotted line. The only division of blood vessels likely to require ligation is the distal portion of the intercostal arteries when the ribs are severed, and being small at this portion of their distribution their ligation will not be attended with any difficulty.

The opening represented on the left side of the chest shows the lungs and the pericardium with the flap elevated by cutting through the ribs and turned partially back by bending the costal cartilages.

This trap-door admits of access to all parts of the corresponding cavity, and may be used on either side.

tion upon the human subject that these structures of the chest, like other parts of the physical organism, are more tolerant of surgical interference than when in their normal condition.

At a banquet of the Medical Association of Georgia on April 20th of 1893, in Americus, I am credited with the remark that "Ere long we shall be able to study the movements of the heart and lungs through trap-door openings through the walls of the chest."

So far as I was informed then no such operation had been undertaken, but the advantages of such a procedure are apparent to me, and in my review of the literature on thoracic surgery for Sajous' Annual in the following year, 1894, the following remark will be found : " My prediction in April, 1893, has been realized in the 'trap-door' of the chest made by Delorme, of Paris."

The flap is formed as follows : An incision representing the sides of a rectangle is made in the region between the third and sixth ribs. The base of the flap thus formed is directed posteriorly and above, and its upper and lower margin run parallel with the ribs, and extends from the axillary border of the scapula to within two fingers' breadth of the sternum. At the anterior margin of this flap the ribs and intercostal muscles are severed, while at the posterior margin only the ribs are divided to a limited extent. The flap is then loosened at its upper and lower margin and thrown back. This operation has been employed by Delorme in a tuberculous abscess of the chest wall which perforated into the thoracic cavity.

Operations have been performed by Lawson, of Hull, England, and Jennings, of London, cutting across the interspace between the first and second ribs nearly to the edge of the axillary fold. From each end of this incision a division of the soft parts and a second and third ribs is effected with knife and saw. This flap is then turned down so as to expose the upper portion of the lung and afterwards closed up. An operation has been devised by Postemski for opening up a trap-door on the same principle of utilizing the intercostal space for the hinge of the flap made in the side of the chest, and yet necessitates dividing the ribs anteriorly and posteriorly. Each of the different modes of access may be advantageous under certain conditions, and hence should not be condemned ; but after studying the principle involved another plan has seemed to the author as more satisfactory for exploring the thoracic cavity. I read a paper before the meeting of the American Surgical Association at Detroit upon " An Improved Method of Exploring the Thoracic Cavity," and gave also a demonstration of a process of dissection of cadaver on the occasion. The incisions are most conveniently made after raising the arm of the subject above the head on the side of the operation. Directly in the mid-axillary line a cut is carried perpendicularly from the third to the seventh rib—from the upper and lower extremities of this incision cuts are made transversely forward to the costal cartilages without going through the pleura. Any small vessels which may bleed should be seized with the forceps and then the bone forceps should be used for dividing the ribs, when scissors with a blunt point within may be used for dividing the pleura in each line of incision. At this stage the formation



of the flap consisting of skin, intercostal muscles, ribs and pleura may be lifted up and bent over upon the sternum by the yielding of the costal cartilages which serve as hinges to the trap-door.

If any vessels held by the forceps should bleed when released, they should be ligated with catgut or kangaroo tendon before closing the wound. If the nature of the case should not require so large an opening as to necessitate an incision in the axillary line extending from the third to the seventh rib, it should be made shorter ; and, on the other hand, if more space is demanded the cut should be made longer, reaching down to the eighth rib. When it is known in advance to what extent the structures are involved, the dissection should of course correspond to the area implicated, and in like manner, if there is evidence of traumatism which demands relief, the exposure of the region injured should be such as to facilitate the surgical procedure which may be indicated.

The principle of this method of entering the chest for exploration and for treatment of diseases and injuries of the thoracic viscera appeals to the surgeon as applicable to a great variety of cases, and has advantages over any other procedure which has been brought to the attention of the profession in this country or in other regions of the world.

While the operation has not been tested upon a living subject, the cadaveric demonstration made before the members of the American Surgical Association at Detroit elicited the most favorable expression from those who joined in the discussion, and some declared their purpose to put it into execution whenever opportunity afforded. If we analyze the elements which enter into this modification of the process for opening the chest, and compare it with others, it will appear that it is more simple in its execution and more effectual in securing the desired results of access to all parts of the thoracic cavity. When the part to be examined can be located from the symptoms, or from external procedures, of course the opening is to be made on that side. But in case of doubt the trap-door may be made on the left side, as giving a wider field of observation over the most important viscera of the chest, including the mediastinum.

The distribution of the blood vessels supplying the thorax is such that little hæmorrhage can result from the incision, and only the distal portion of the intercostal arteries will be encountered in a perpendicular axillary incision in which line the third, fourth, fifth, and six ribs are divided. The long thoracic artery lies behind this cut, and the internal mammary lies in front of the line of the chondral attachments of the ribs to which only the transverse cuts extend. With caution in carrying the knife along the upper margins of the third and seventh ribs there will be no risk of injuring the intercostal muscles, and the same will hold elsewhere.

—*Moody's Magazine of Medicine.*

## DIPHTHERIA AND ANTITOXIN TREATMENT.

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THE following extracts bearing on the treatment of diphtheria by antitoxin, and sequences of the same, being of present importance, are published without comment :

### A POSSIBLE EXPLANATION OF SUDDEN DEATH AFTER THE ADMINISTRATION OF DIPHTHERIA ANTITOXIN.

Dr. C. B. Fitzpatrick suggests that the cause of death of a male infant, aged twenty-one months, who died suddenly while in perfect health, in consequence of an injection of this substance, may have been due to the carbolic acid which is known to have been present. This is present to the amount of 5 per cent., and the dose administered contained between three-fourths and four-fifths of a grain. The patient in question received about five times the safe dose, and, inasmuch as the minimal fatal dose is unknown, perhaps a fatal dose.—*The Medical Record*.

### THE USE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.

The report of the American Pædiatric Society based upon its collective investigation presents for analysis the results in 3,384 cases, which occurred in the practice of 613 physicians. In addition two series of cases, one treated in the tenements of New York, and the other a partial report from the inspectors of the Health Department of Chicago, are included. The report may be summarized as follows: More than six hundred of these physicians have pronounced themselves as strongly in favor of the serum treatment. The localities from which reports have been received are so widely separated that no peculiarity of local conditions can account for the favorable record. Doubtful cases, which have recovered, have been excluded, while doubtful cases, which were fatal, have been included. No new cases of sudden death immediately after injection have been returned. The number of cases injected reasonably early, in which the serum did not appear to influence favorably the progress of the disease, was but nineteen; nine of these were of doubtful diagnosis, four cases complicated measles, three were malignant, and in two cases the serum was of uncertain strength and of doubtful value. In three cases the patients

appeared to have been made worse ; of these, in but one may the result be fairly attributed to the injection. The general mortality was 12.3 per cent. ; excluding the cases moribund at the time of the injection or dying within twenty-four hours, it was 8.8 per cent. The most striking improvement was seen in the cases injected during the first three days ; here the mortality was 7.3 per cent.—excluding cases as above, 4.8 per cent. The mortality of cases injected on or after the fourth day was 27 per cent. Of the laryngeal cases (membranous croup) one-half recovered without operation ; in a large proportion of cases the symptoms of stenosis were severe. Of the cases upon which intubation was performed the mortality was 25.9 per cent., or less than one-half as great as has ever been reported under any other method of treatment. Broncho-pneumonia occurred in 5.9 per cent. In contrast to the two or three instances in which the serum is believed to have acted unfavorably upon the heart may be cited a large number in which there was distinct improvement in its action after the serum was injected. There is little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The effect upon the nervous system is less marked than upon any other part of the body, paralytic *sequelæ* being recorded in 9.7 per cent. of the cases. The most concentrated strength of an absolutely reliable preparation should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory. The dosage for a child over two years old should be, in all laryngeal cases with stenosis and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement. A third dose after a similar interval may be necessary. For severe cases in children under two years and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary ; a second dose is not usually required. The dosage should be always estimated in antitoxin units, and not in the amount of serum.—*Pædiatrics*.

SUDDEN DEATH AFTER A PREVENTIVE INJECTION OF BEHRING'S  
ANTITOXIN.

Dr. R. Paltauf, noting the previously reported cases of Maizard, Quinon, and Alfoldi, claims that these were not definite, in that thorough examinations were not made. It is admitted that local and general erythematæ, exanthematæ, even marked fever, may arise, and occasionally joint symptoms, but denies that a fatal case has resulted or that permanent injury has been done. The beneficial influence of the serum upon diphtheria is incontestable, and the assumption that death is due to its action only



prevents its use, through the anxiety of the laity, to which these reports give rise. Instances of sudden death in children are not uncommon, and may be attributed to causes not found save after especial examination. Among these may be cited acute interstitial myocarditis, the lymphatic-chlorotic constitution of rhachitis.—*Wiener klinische Wochenschrift*.

#### DEATH FOLLOWING ANTIDIPHTHERITIC SERUM.

M. Variat reports a single observation. A child of eighteen months suffered from a slight pharyngeal diphtheria, followed by croup. After intubation five drachms of serum were administered. Death resulted in forty-eight hours; the temperature was 105° F. On necropsy nothing was found to indicate the cause of death. The pharynx and larynx were entirely free from membrane, and appeared healthy.—*La Semaine Médicale*.

#### THE CAUSE OF SUDDEN DEATH FROM ANTITOXIN INJECTIONS.

Drs. A. Seibert and F. Schwyzer, from laboratory experiments, conclude that: (1) Antitoxic serum does not seem capable of causing threatening symptoms and speedy death even when brought quickly into the blood current in very large doses. (2) That carbolic acid used as preservative must be in such a weak solution as to be unable to cause the characteristic carbolic convulsions. (3) Even very small quantities of air will cause severe disturbances and ultimate cessation of breathing, and to this cause the authors attribute the sudden deaths reported.—*Medical Record*.

#### DIPHTHERIA AND ANTITOXIN.

The Metropolitan Asylums Board of London has recently issued a statistical report on the use of antitoxin in diphtheria, as observed in six fever hospitals during 1895.

The statistics are based on a comparison with cases treated during 1894, when no antitoxin was used, this year being chosen on account of the fact that the mortality was exceptionally low at that time.

The tables show a general decrease in mortality of 7.1 per cent. in favor of 1895. The reduction is more striking if age and the day of the disease on which the antitoxin was administered are taken into account.

In the first quinquennium of life the results are most striking, and here the mortality is reduced 13.2 per cent. in 1895, lower than it was in 1894.

The necessity of administering the antitoxin early is forcibly shown by the statistics bearing on the relation between date of administration and mortality, as it is shown that those cases in which the antitoxin was

administered on the first and second days show a mortality of 4.6 per cent. and 14.8 per cent., respectively, in 1895, as against 22.5 per cent. and 14.8 per cent. in 1894.

The mortality in laryngeal cases is also shown to be greatly reduced, the percentage in 1895 being 49.3, as compared to 70.4 in 1894.

The complications of the disease were apparently not influenced by the antitoxin, as cases showing complications were rather more numerous in 1895 than in 1894. That this was not due to the antitoxin is shown by comparing an equal number of cases in 1894 and 1895 not treated by antitoxin, when it is seen that the 1895 cases show a higher percentage of complications.

The authors summarize the results of their inquiry in the following conclusions:

(1) There is a great reduction in the mortality of cases brought under the antitoxin treatment on the first and second days of the disease.

(2) That in this series of hospitals the combined general mortality is below that of any other year.

(3) That there is a particularly remarkable lowering of mortality in the laryngeal cases.

(4) That there is a uniform improvement in tracheotomy results.

(5) That there is a beneficial effect produced upon the clinical course of the disease.

They consider the value of the antitoxin to be demonstrated from the study of this large number (2,182) of cases; and lay particular stress upon beginning the treatment as early as possible.—*Metropolitan Asylums Board. Report of the Medical Superintendents upon the Use of Antitoxic Serum in Diphtheria. American Journal of the Medical Sciences.*

#### EFFECT OF THE ANTITOXIN TREATMENT.

I have reserved to the end of my paper what is perhaps the most interesting question of all—namely, how far do the most recent statistics throw light on the effect of the antitoxin treatment. On this point I may say at once that the general conclusion reached in my former paper seems to me to be fully maintained, and that we may assert with confidence that the diphtheria mortality of the metropolis has received a considerable check which it is difficult to attribute to any other cause than the introduction of the serum treatment. Comparing together the average weekly number of deaths for the last five years, we find that after rising from 26.2 in 1891 to 36.2 in 1892 and 62.8 in 1893, it fell to 51.4 in 1894 and 44.5 in 1895. It is true that the opening months of 1895 promised a greater diminution than that exhibited by the figures for the whole year, and that the intensity of the rise last autumn seems to show that some other factor

than the antitoxin treatment must have been concerned in the diminished mortality at the end of 1894; but notwithstanding these facts, which are freely admitted, it would seem that the general run even of these figures suggests a conclusion favorable to the efficacy of the treatment. This conclusion becomes strengthened if, in the place of the actual number of deaths, we consider what is of course a truer test of the matter at issue—namely, the case mortality, or relation of deaths to notifications. Under this head the main facts are as follows: The number of cases notified during 1893 was 13,694; of deaths during the same year, 3,264; giving a case mortality of 23.8 per cent. In 1894 the corresponding figures were 11,190 and 2,674; the case mortality stood, therefore, at 23.9. In 1895, however, while the notifications rose to 11,229, the number of fatal cases fell to 2,289, and the case mortality was therefore only 20.4 per cent., the lowest rate for a whole year yet recorded. The numbers for the first half of the present year are respectively 6,193 cases notified, and 1,239 deaths, which work out to a case mortality of 20.2 per cent. In view of the fact that, quite irrespective of the number of cases, the case mortality of the last half of the year is invariably below that of the first, it may fairly be anticipated that by the end of 1896 the year's case mortality will for the first time on record have sunk below 20 per cent. This diminution in case mortality, which appears to be still in progress, represents the annual saving of some hundreds of lives, and I may be allowed, in conclusion, once more to repeat that it is difficult to see what cause can have been at work during the last two years in producing so marked a result, unless it be the treatment by antitoxin.—*F. A. Dixey, M.A., M.D., in British Medical Journal, August 22, 1896.*



# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### BILOCULAR STOMACH.

M. Carel, Lyons, reports a double pouched stomach, caused by the cicatrix of a former ulcer. The cardiac pouch was large, the pyloric small. The patient died of digestive troubles and had interstitial nephritis.—

*Lyons Médicale.*

J.A.A.

### TREATMENT OF OBESITY.

A sarcastic physician gave the following advice to an obese patient on being consulted with reference to the treatment of his obesity: "Eat three francs' worth a day; but earn the francs and you shall get thin."—

*Lyons Médicale.*

J.A.A.

### ASEPTOL: A NEW ALBUMEN DETECTING REAGENT.

M. Barral has found that aseptol, a mixture of equal parts of sulphuric acid at 60°C. and pure phenol, will show the presence of albumen in urine containing as small a quantity as three or four milligrams to the litre. Its only drawback is that it precipitates mucus and peptones.—*Lyons Médicale.*

J.A.A.

### DIABETIC BLOOD.

MM. Lépine and Lyonnet claim that the green color of the red corpuscles of diabetic patients obtained by Dr. Bremer, and published in *The New York Medical Journal*, with his eosin-methyl-blue stain is due to the diminished alkalinity or actual acid reaction of the blood in diabetes. They have found it in leukæmia. Dr. Bremer looks on the test

as pathognomonic of diabetes. He has found the blood of diabetic patients whose glycosuria had been suppressed by diet, and such drugs as antipyrine, etc., to still show it. Artificially sugared blood does not show it, neither does the blood of an animal in which diabetes is produced by phlorizine show it, but blood treated with true diabetic urine does.

It is something still unknown that Dr. Bremer claims produces the green coloration.—*Lyons Médicale.* J.A.A.

#### SIMPLE APPARATUS FOR THE QUANTITATIVE ANALYSIS OF UREA.

Dr. Linossier showed to the Medical Society of Lyons the following very simple apparatus that he has used for several years for the quantitative examination of urea in urine.

It consists of a 100 c.c. large-necked bottle marked on the side to indicate the 35 c.c. height.

A rubber cork is perforated to allow to pass through it a stoppered brass tube.

A piece of thick glass tubing, corked at one end, and large enough to contain 5 or 6 c.c. to drop into the bottle.

Besides this there is required :

A graduated pipette capable of holding 2.5 c.c. of urine.

A graduate with a capacity of from 35 to 50 c.c.

The method of operating is as follows :

Pour into the bottle 35 c.c. of a hypobromite of soda solution after the following formula :

Soapmaker's lye ..... 100 c.c.

Water ..... 200 c.c.

Bromine..... 5 c.c.

Into the corked tube let run 2.5 c.c. of urine. Drop the tube into the bottle in such a way as not to allow the urine to mix with the hypobromite of soda.

With the stopper in the brass tube open, the cork is securely introduced.

Close the tap and invert the bottle.

The reagent and the urine in contact with one another react and nitrogen is liberated; the reaction is aided by shaking the bottle gently.

As soon as the liberation of gas is complete (this requires but a few seconds), and without it being necessary to wait for the subsidence of the foam, the apparatus is inverted over the graduate and the tap opened. The nitrogen drives out part of the liquid (a quantity equal to its own bulk).

The liquid in the graduate is read off; each c.c. corresponds to one grain of urea to a litre of the urine examined.

The whole operation requires but a couple of minutes. The persistent foam which forms in albuminous urine does not interfere with the result. Care should be taken during the manipulation to hold the bottle by the neck, so as not to heat the contained gas with the hand.

For this apparatus to work properly it is necessary that the stoppered brass tube be made just as figured.

The tube itself ought to be large enough, so that when the bottle is inverted the air in the tube on the bottle side of the tap will be easily displaced by the liquid. The part external to the tap should be reduced to the minimum in length, so that none of the displaced liquid will remain in it.

Again, the opening in the tap should be small enough not to allow any air to gain entrance into the bottle when the pressure inside becomes neutral.

The calculation is after the data furnished by Yvon, and due allowance has been made for incomplete decomposition of the urea, and of the decomposition of other nitrogenous substances, for temperature and pressure, etc.

The results obtained are more than sufficiently accurate for ordinary chemical research.—*Lyons Médicale.* J.A.A.



## OBSTETRICS

IN CHARGE OF

**ADAM H. WRIGHT, B.A., M.D. Tor.,**

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ASSISTED BY

**H. CRAWFORD SCADDING, M.D.,**

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### VERATRUM VIRIDE FOR PUERPERAL ECLAMPSIA.

Dr. Jones, of New York, speaks as follows with reference to the administration of veratrum viride in puerperal eclampsia (*N. Y. Med. Record*):

We come now to the consideration of the treatment of eclampsia by veratrum viride. In the July, 1859, number of the *Southern Medical and Surgical Journal*, Dr. Baker, of Eufaula, Ala., strongly advocated the use of this drug in puerperal convulsions, and reported one case of his own and several from the practice of colleagues in which it had been used with prompt success.

Norwood's tincture was used, first in doses of fifteen drops, followed by doses of ten drops every two hours as long as required, the aim being to reduce the pulse in frequency to fifty or sixty a minute, and to diminish arterial pressure. Dr. Baker especially noted the tolerance to large doses exhibited by patients suffering from eclampsia, and the consequent absence of dangerous symptoms, unless the *very* large doses originally recommended by Norwood had been used; still, he recommended that the initial dose of ten to fifteen drops should be followed by frequent doses of five drops, as being equally efficacious and less liable to produce disagreeable symptoms. He spoke of being frightened at first by the depression which sometimes followed very large doses, but declared that the patients always recovered.

Since Dr. Baker's paper many observers have lent the weight of their approval to this treatment. In the Transactions of the American Gynecological Society for 1887, Jewett says: "Experience seems to justify the statement that no convulsions will occur while the patient is sufficiently

under the influence of veratrum to hold the pulse below 60." Dr. T. G. Davis, of Bridgeton, N.J., has reported six cases successfully treated by the use hypodermically of six minims of Norwood's tincture and one-third grain of morphine combined, the rejection repeated as required, the aim being, of course, to reduce the pulse in frequency and tension. There seems little doubt that in this way all may be attained that is achieved by the blood-letting, without the disadvantages of the latter method. Dr. Reamy, of Cincinnati, reported to the American Gynæcological Society at Baltimore in May, 1895, six cases of puerperal eclampsia successfully treated by veratrum viride, with or without morphine. Dr. Reamy had given as much as twenty-five minims hypodermically, and believed that morphine controlled its unpleasant effects. Love, of Orange, N.J., has also strongly advocated the use of veratrum viride in large doses in this disease, and claims never to have been obliged to have recourse to radical measures for the induction or acceleration of labor in eclampsia, and to have carried his cases safely through. He has employed large doses, even a teaspoonful frequently repeated. These large doses, when given per os, generally produce vomiting, and probably are not entirely absorbed, while, when doses of more than fifteen minims have been used hypodermically, especially without the controlling influence of morphine, distressing symptoms have sometimes been met with. These symptoms have, however, seldom if ever led to disastrous results. It would seem, therefore, generally best to combine a moderate amount of morphine with the veratrum, and to use the latter drug hypodermically in small doses (of five minims), as being more certain in effect and permitting quicker repetition. When given in this way one need not hesitate to repeat the injection in half an hour, while if given by the mouth it would not be safe to repeat the dose until a much longer time had elapsed.

#### PUERPERAL PULMONARY THROMBOSIS.

Lackie (*Edinburgh Medical Journal*, 1896, No. 493) reports the case of a healthy, stout primipara, who had, during pregnancy, an anasarca of the lower limbs without albuminuria. Labor was not tedious, was spontaneous, and attended by a very little loss of blood. The patient did well, and was lifted to a couch on the eleventh day. On the twelfth day the patient walked a short distance in her room, struggled for breath, and died. Efforts were made promptly and vigorously to resuscitate her, but without avail. On post-mortem examination no abnormality was found, except pulmonary thrombosis and right heart distended with clot.

Reported cases of this complication show that it occurs most often before the fourteenth day after birth. It usually follows exertion, and is sometimes not fatal when thrombosis is but partial, in many cases accom-

panied by peripheral thrombosis also. Beyond immediate stimulation with ammonia and ether nothing can be done for serious pulmonary thrombosis. When a puerperal patient becomes easily faint and breathless she must be kept upon her back, all exertion absolutely avoided, and her nourishment carefully administered. Mental exertion and shock are also potent factors in causing this complication.

The editor adds to the above a brief report of the following case: A young primipara had been greatly depressed during her illegitimate pregnancy; her death had been foretold by a fortune-teller, whom she believed. She had a long, hard labor, the fœtus in breech presentation, and a marked tendency to uterine relaxation and hæmorrhage was successfully controlled. Sixteen hours after labor she was seized with dyspnoea, syncope, and fatal coma. Auscultation of heart-sounds showed overfilling of the right heart; post-mortem examination was not obtained. Treatment was absolutely unavailing. The patient's symptoms were all those of pulmonary thrombosis and heart-clot.—*American Journal of the Medical Sciences.*

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#### VERSION WITH THE PATIENT IN THE PRONE POSITION.

Mensinga (*Centralblatt für Gynakologie*, 1896, No. 23) does version, placing the patient upon her abdomen, and has had good results. He thinks this method has the following advantages: The outlet of the pelvis is directed above with the patient prone, giving the operator much more room for the insertion of the hand. The operator's hand and arm are in the position of pronation, giving a better use of the muscles and tactile sense. This posture widens and opens the uterus and vagina; the contraction-ring disappears in these cases. Risk of bruising the soft parts is less with the patient in this position. The patient has a pillow under the chest, her head turned to one side, while the operator may sit beside her, using either hand for version. By this posture two dangers are minimized: tearing the uterus from the vagina and air-embolism. Patients suffer less pain in this posture. Two illustrative cases are reported in detail.—*American Journal of the Medical Sciences.*



# SURGERY

IN CHARGE OF

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AND

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## EPITHELIAL SOWING. A NEW METHOD OF SKIN GRAFTING.

F. von Mangoldt, of Dresden (*La Sem. Méd.*), has conceived a method of skin-grafting to which he has given the name of "epithelial sowing," which, for easy execution and certain other advantages, merits careful consideration.

The epithelium is obtained by simply scraping a healthy cutaneous surface. For this purpose he prefers the external or internal surface of the arm. The chosen spot is carefully shaved and disinfected, and then, with a sharp sterilized razor, held perpendicularly to the skin, the epidermis is scraped away until the papillary layer is reached. In this way a magma is obtained, composed of epithelial cells and extravasated blood, which is spread upon the surface to be treated, and thoroughly pressed in with a spatula. This sowing is very simple in case of a fresh wound, provided the blood has ceased oozing; but in case of an old or infected wound, it is necessary to remove the granulations and thoroughly disinfect it.

In order to make sure that the epithelial elements adhere closely to the wound, it is advised to scarify it with a small and very sharp bistoury before spreading the scrapings upon it. The spot from which the epithelium has been borrowed is dusted with dermatol, covered with sterilized gauze, and bandaged.

The grafted area is covered with strips of protective, over which an aseptic dressing is placed. The region from which the epidermis has been removed resumes its normal appearance in a few days.

The transplanted area during the days immediately following the operation looks as if covered with a pseudo-membrane; it loses its primitive

brick-red color and becomes yellowish gray, a change due to coagulation of the fibrin. At the fifth or seventh day the fibrin begins to disappear, and the color changes to blush rose, the first sign of the proliferation of the epidermic elements. Toward the middle or the end of the third week the surface is completely covered with epithelium. After the fifth day the dressing is changed every two days and the wound gently irrigated with a sterile warm normal salt solution. After the tenth day boric acid is dusted on. The new epithelial layer is at first thin and glossy, later it thickens, and begins to desquamate. This desquamation, probably due to the absence of the glands normally present in the skin, should be combated with ointments of fat or oil. Not the least of the advantages of this method is the fact that no jackets of necrotic tissue are closed in by new skin, as sometimes happens in grafting by the Thiersch method.—*New York Polyclinic*.

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#### TURPENTINE IN SURGICAL TUBERCULOSIS.

I. Snardi, of Turin, employs turpentine in the form of an ointment (made with an equal quantity of vaseline) in the treatment of cutaneous tuberculosis, fistulæ abscesses, after having scraped the fistulæ and evacuated the abscess cavity by the aid of a trocar. The injection of turpentine brings about an inflammatory reaction, accompanied by a very marked rise of temperature, but without any grave effects being manifested. At the end of four or five days the abscess cavities are opened up and stuffed with gauze, sterilized and soaked in the turpentine and vaseline mixture. The author has used this in eighteen cases, nearly all children, and has obtained in every case a complete cure, which he has been able to verify some time after.—*Gazette des Hopitaux*. W. McK.

## PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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### CARBOLIC ACID POISONING IN THE NEWBORN.

The *Vienna Medical Press* reports a case of fatal poisoning in an infant the result of an application of a carbolic acid dressing after circumcision. A 3 per cent. solution had been applied on cotton at the time of operation. The same day the urine presented a dark appearance, and next day the dressing was removed by a nurse. Death followed forty-eight hours after the operation.

Another case occurred in a child of four months as a result of the use of dressings saturated with a 1 per cent. solution applied to the skin, although there was no wound or abrasion to increase absorption. The day following the application the little patient was pale, cold, covered with sweat, and the urine dark and scanty. The removal of the dressings was followed by the disappearance of all these alarming symptoms.

As a result of these two cases the *Press* concludes that carbolic acid should be used *never* with the newborn, even in very weak solutions.—  
*Gazette des Hôpitaux.*

W. McK.

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### INFLUENCE OF DENTITION IN CHILDREN.

The question of the rôle dentition plays in infantile pathology is still much discussed. Certain clinicians consider it as a cause of a great number of sicknesses in infants; others, on the contrary, believe it has no pathological effect. M. Arnstein discusses this question in a paper read before the society. With convulsions, for example, he admits that they may be produced reflexly under the influence of the new appearing teeth. Convulsions, however, from this cause are very rare. In eighty-two cases of



convulsions observed by the author during five years, in six only could he attribute it to teeth dentition. On the other hand, he has often observed in children at the time of the appearance of the teeth an increased excitability of the central nervous system, followed by general irritability, pain, crying, and restless sleep. Often with dentition is met affections of the lips and gums, and thrust so often as to appear in the relation of cause and effect. Dentition is not here the determining cause, but only predisposes to the development of these parasites. He concludes (1) that dentition is essentially physiological, and the great majority of cases is not accompanied by any pathological disturbance ; (2) however, frequently severe pathological conditions, notably reflex nervous phenomena and affections of the mouth, must be attributed to difficult dentition ; (3) diseases of the chest, abdomen, and brain probably never depend upon dentition.—*Gazette des Hopitaux*.  
W. McK.

# GYNÆCOLOGY

IN CHARGE OF

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## PREVENTION OF THIRST FOLLOWING CÆLIOTOMY.

Dr. Wm. H. Humiston, in *Columbus Medical Journal*, says that the method of preventing thirst following cœliotomy that he first published in July, 1895, in the *American Journal of Obstetrics*, has continued to give the same uniform results that the twelve cases which were then reported gave promise.

For the past two years the following has been my method, *adopted* because it was so efficient in overcoming the intense and distressing thirst which follows cœliotomy, and *continued* because the thirst *is allayed* and the quantity of urine almost quadruply increased, together with a remarkable increase in the total amount of urinary solids excreted.

The method : "The patient should have the usual preparation for cœliotomy ; *i.e.*, diet, daily baths, cathartics, etc. For three days prior to operation order the patient to drink one pint of hot water an hour before each meal and on retiring, thus drinking two quarts of water each twenty-four hours, the last pint to be taken three hours before the time set for operating. Do not omit to give the water the day previous to the operation, while the patient is restricted to a limited amount of liquid nourishment, and the bowels are being unloaded. We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty-six hours after the operation in comparative comfort, with no thirst, a moist tongue, and an active renal function, represented by an excretion of from twenty-eight to fifty fluid ounces of urine during the first twenty-four hours, catheterization being seldom necessary."

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## INFLUENCE OF HOT AND TEPID BATHS UPON THE MENSES.

Matwieff publishes a series of observations which demonstrate that saline or mud baths, at 25°, 27°, or 28°C., have a favorable influence on

menstruation from the point of view of pain, the quantity of blood lost, and the duration of the flow. Mirouoff, who made a number of observations to verify this, is in a position to state that alkaline baths, at  $27^{\circ}$  or  $28^{\circ}$ , taken during the menstrual period by patients suffering from gynæcological troubles, act as an excellent sedative; the quantity of blood lost is not affected, or perhaps slightly diminished. After these results he wished to know the influence of hot baths in the same conditions, for these are what would be, more than anything else, recommended in gynæcological cases. In affections of the uterine appendages the menses are often increased in frequency, as also quantity of blood lost. Patients are afraid to use hot baths during this period for fear of increasing the flow, or, perhaps, bringing on severe hæmorrhage. His conclusions on this account are interesting. He finds, as a result of twenty observations, that hot baths, taken during menstruation, do not increase the quantity of blood lost; on the contrary, they often diminish it. At the same time, they soothe the pain accompanying inflammatory affections of the genitals. They are, therefore, of real benefit, not only between the periods, but during the flow.—*Gazette des Hôpitaux*.

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#### NEW METHOD OF EXAMINATION.

M. Sée, at the Academy of Medicine, announced a new method, which he had used especially for examination of tumor in the abdomen.

He terms it hydrostatic examination, that is, examination in water of the organs contained in the abdominal cavity.

When the abdominal wall is plunged into water a sudden relaxation takes place. This allows him to make out much more easily the subjacent parts, and has given to him very valuable results.—*Gazette des Hôpitaux*.

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#### AN EXTRA-UTERINE PREGNANCY OF TWELVE YEARS' STANDING.

During the proceedings of the Medical Society of Lyons, Dr. Denis showed an extrauterine foetus that had been twelve years in the abdomen. It had neither calcified nor saponified.

During the pregnancy amenorrhœa had been complete, there had been no false labor at end of pregnancy, the child died at the tenth month, menstruation reappeared, and the patient's health became comparatively good again.

Functional trouble of the bladder and intestine decided the surgeon to operate. At the operation a cyst was found adhering to the neighboring organs. The wall of the cyst was one centimetre thick. The foetus was extracted with difficulty, some of the bones being strongly adherent to the sac.—*Lyons Médicale*.

J.A.A.



# HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

**WILLIAM OLDRIGHT, M.A., M.D. Tor.,**

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AND

**E. HERBERT ADAMS, M.D., D.D.S.**

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## FOODS AND THEIR ADULTERATION.

Dr. E. M. Bruce, in *The Clinique*, says : Some time ago I was in one of our large department stores, and while waiting for my parcel a lady came up and asked if the eggs they had were strictly fresh. He somewhat curtly replied : " Lady, they are strictly eggs, and that's all I know about them." The walls and counters of the store were emblazoned with banners bearing the legends of strict purity of the foodstuffs of all sorts ; and I thought at the time that the eggs were probably the only things that were not adulterated. If they were not strictly fresh they were probably strictly pure.

The majority of our food products are more or less adulterated ; we pay for butter and get some mixture of fats and oils that may taste very good, but is not butter. The "strictly pure Vermont maple sugar" is probably made down on South Water street from glucose and extracts of hickory bark. And the honey !—no flower was ever robbed of its sweets by vandal bee to furnish the honey we get, but we are robbed who pay for pure clover honey and get mostly glycerine, so the poet's metaphor is kept up. The pure fruit jams and jellies are, of course, mostly gelatine and glucose. The manufacturer points to the seeds in the jams as a passport of purity for the small seeding fruits, but a little reflection and investigation will show that hay and white clover will furnish any amount of seeds to take the place of the raspberries and strawberries that are present only in the pictures upon the outside of the packages.

Some years ago a manufacturer applied to me in my capacity as a chemist to furnish him with some thickener for water that would not ferment and not be at all harmful to the human economy. His idea was, I think, to add his thickener to water to give it the consistency of syrup, and sweeten the stuff with saccharine.

This was intended for a complete swindle. At that time I could not furnish him the required article. It could be and perhaps is done now.

Not all of the food adulterations or falsifications are begun with a desire to swindle. It was an honest, earnest effort on the part of Mège-Mouries, the French chemist, to give to the poor and to the sailor men an article of food which should be wholesome and palatable and keep better than ordinary butter; and while working at the Imperial farm at Vincennes he imitated the process which he supposed took place in the bovine economy when cows were underfed and the butter furnished was derived from their own fat. The very best quality of recently killed bullock's fat was finely cut up in a machine in order to break up the membranes. This was put in a steam-heated tank with water, a small amount of bicarbonate of potash, and two stomachs of sheep or pigs.

The temperature was raised to  $45^{\circ}\text{C}$ ., and in a couple of hours, under the action of the pepsin in the stomachs, the membranes were dissolved and the fat rose to the top of the mixture. This fat was drawn off into another tank the temperature of which was slightly higher, and 2 per cent. of salt added. After a short time the fat became clear, took on a yellow color, and had somewhat the taste and odor of fresh butter. This fat was then drawn off and cooled. It was then cut in pieces, wrapped in linen, and placed in a hydraulic press at a temperature of  $25^{\circ}\text{C}$ . By the pressure the fat was separated into two portions, stearine and a fluid portion which has been termed oleomargarine. The stearine went to the candlemakers and the oleomargarine was used in the place of butter. With certain modifications, this is the process now in use for the manufacture of oleomargarine. If it is sold as "oleo" there is no objection whatever to it. It is a better article of food than much of the butter made, and it keeps very much better.

There has been and still is a large number of people who think that the "oleo" stock is made from any old scraps of fat or grease that may be found around. But this is not true; a first grade of oleo can only be made by using the very best fat. If it be at all fermented it cannot be used. The product is as wholesome and as good a food, so far as any experiments have shown, as butter, and the average oleo product reaches us in a better condition than the average make of butter.

#### ANTI-TUBERCLE ORDINANCES.

American cities, one after another, are taking measures to protect themselves from tubercle in milk by scientific dairy inspection, and by permitting milk to be sold only under certificates of health. Besides the city of New York, we note among recent accessions to the number the cities of Minneapolis, Allegheny, Pittsfield (Mass.), Lynn, Malone (N.Y.), San Francisco, and Alameda, Cal.—*Sanitary Era*.

## SOME EFFECTS ON THE GENITO-URINARY ORGANS BY BICYCLE RIDING.

The above is the title of a paper by C. E. Colwell in *The Clinique*. The writer found albumen in the urine in a number of cases following fast bicycle riding.

He also considers much injury has been done to the prostate from defective saddles.

He considers that those suffering from disease of the kidneys, pelvic inflammations, bladder or prostate diseases, should keep off the wheel.

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NEGLECT OF THE TEETH IN COUNTRY DISTRICTS.

It is not generally known to the public, but it is an indisputable fact, that in no part of the Dominion is there more neglect of the human teeth, and more ignorance of their functional importance, than in the country districts of the Province of Quebec, and no less among the English than the French population. Physicians in Ontario, as a rule, avoid interference in the diseases of the teeth, excepting where there is no dentist within their limits, but in Quebec we have known, upon several occasions, young successors to medical men receive as one of the legacies of practice of their predecessor large jars or bottles full of extracted teeth, 90 per cent. of which a dentist would have saved! We have had many opportunities to observe the serious extent of the various diseases of the teeth in the eastern townships especially, and to learn from intelligent country physicians who do not make a business of extracting these organs that the constitutional and especially the nervous affections due directly to diseased teeth are alarmingly on the increase. A large number of the affections of the eye and ears are traced to abnormal conditions in the mouth, and which get no radical cure excepting through proper dental treatment by experienced dentists. Digestion is impaired on account of the absence of the teeth. Beauty not only loses one of its chief charms, but strength loses one of its important aids. Sandow once said that he never knew a man of great strength who was a victim of dyspepsia, or who had bad teeth. There is no more common cause of headache, neuralgia, diarrhoea, and various other disorders than diseased conditions of the teeth, and it is astonishing to reflect that in the mouth, the portal of life and health, many people will tolerate filthy conditions which they would not endure in any other part of the body. A whole train of obscure nervous and sympathetic affections owe their exciting cause to diseased teeth. There may be no decay or pain frequently, but the ears, the eyes, the stomach, the head, etc., suffer. The teeth are not merely mechanical mills to grind food, requiring only mechanical treatment by mechanically educated men. They are as important and necessary to the mouth as the



fingers to the hand ; and even were it not so, the suffering following their neglect, and the decline of general health due to their loss or disease, should impel people to pay them more attention. It has been said that it is a wise dentist who knows his own teeth, and it is a fact that no one can faithfully examine his own or discover the beginnings of decay. The sufferings endured by hundreds of neglected children, due to the silly superstition that the loss of temporary teeth, which should last seven years, is no functional loss, is something appalling in Canada, especially in country districts. Our farmers' families, especially, are martyrs to the effects of bad teeth, and frequently bad dentistry. They wait "until the tooth aches," and foolishly expect then that the dentist can perform a miracle upon an organ which, by the death of the "nerve," has lost its chief nutrition, or they let the physician extract it. It is questionable if the care of the teeth of cattle would not become popular if it could be proved that it would add to their market value, and yet the care of the human teeth, which contribute so much to the health of the entire body, is overlooked ! No doubt some of the prejudice entertained by country residents against dentists is due to the quacking and imposture of uneducated practitioners, who go about seeking teeth to extract and patients to swindle. But there are plenty of honest and skilful dentists ; and it would be as unreasonable to condemn a whole profession for the iniquity of one, or even a whole practice because of an occasional failure, as to condemn the entire practice of medicine because there are quacks in it, or because death occurred where recovery was expected.—*Editorial in Dominion Dental Journal.*

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#### THE REGION OF THE GREAT LAKES.

For those patients living far inland, who need a moist, cool, and equable climate, and with whom the long and expensive journey to the seacoast is not to be considered, there is fortunately in this country a happy alternative. The vast bodies of fresh water constituting our "Great Lakes" supply those at hand with a seashore climate and seashore life, the importance of which can hardly be overestimated. Although differing in some particulars, it may be said that the climate of the Great Lakes in summer resembles closely that of a seashore. There is the same high proportion of moisture in the air, the same coolness, the same increase of ozone, and the same comparative freedom from dust particles and from bacteria. The chief difference lies in the somewhat lessened equability, since, although the Great Lakes are much less subject to sudden and extreme changes of temperature than are inland regions, they still possess hardly so equable and even a climate as does the seacoast. They supply, moreover, all the water sports and diversions that make seashore life in summer so attractive.

The thousands of miles of coast line of these lakes are thronged with summer resorts of all sorts, big and little, fashionable and primitive. We can only attempt in these pages to mention some of the better known ones, but one of the great advantages of this region is that it abounds in quiet, unpretentious, but comfortable resorts where, at very moderate expense, patients can obtain a summer outing and lay by a store of strength and vitality by living the unconventional, healthful, out-of-door life of the lakeshore.

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#### DOCTORS AS PUBLIC SERVANTS.

It has been decided by the Supreme Court of Illinois that the health authorities have no right to require physicians to report contagious diseases or births without remuneration. While the physician is morally bound to warn the community of danger when this can be done at a not unreasonable expenditure of time and labor, it is unjust to compel him to do so, and even to force him, under pain of imprisonment or a fine, to pay the postage on such notification. Of course, the State cannot afford to pay a large fee for such service, and neither would the physician demand it, but it would seem as though a compromise might be effected whereby the physician would receive twenty-five cents for each notification of a case of infectious disease or a birth. Such a plan is, or was, in existence in Connecticut, and we believe worked satisfactorily to both the State and its medical benefactors.—*New York Medical Record*.

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#### NEW YORK EPILEPTIC COLONY.

There are now sixty-six patients in the Craig Epileptic Colony, at Mt. Morris, N. Y. Governor Morton has signed the appropriation bill for this colony, which sets apart about \$75,000 for improvements of all kinds on the premises. The institution was opened on January 20th. It is thought that by May 1st the number of patients will reach one hundred.

The reception of private patients in this institution is entirely secondary, and only to be entertained after all the dependent epileptics of the State have been provided for.

## Editorials.

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### DR. SANGSTER'S LETTER.

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WE infer from the letter published in this issue that Dr. Sangster thinks our editorial in the August number was not logical. We desire to say that he is quite right in that respect, and we certainly hope no one thought we were trying to be logical. In the main we were simply putting Dr. Sangster against himself, and we can scarcely conceive of anything less logical than that. His foolish letter, and his subsequent quibbling, had placed him in such an absurdly awkward position that we could not resist the temptation of extracting a little humor from the situation. Dr. Sangster apparently took the matter very seriously, and has become somewhat coarse in his reply. When he goes into the "cuttlefish" business we must decline to follow him; we cannot come down to that level. As to the question of universities and schoolmen, we have but little now to say. If Dr. Sangster really thinks that he has not been offensive to both, he does not know what ordinary courtesy means.

In order that we may not be misunderstood, we desire to explain our position in this connection. Dr. Sangster has taken a prominent part in medical matters for some years. Many of his contentions were correct, and when we agreed with him we gladly supported him. He was a prominent member of a party which contained many influential and conscientious men. He and his party went to the Local Legislature with certain requests, and got practically all they asked for. Important changes were made in the Medical Act, whereby he and other men in his party became members of the council. His position was thus changed; he was no longer a free lance, but a member of the highest medical body in our province—the medical parliament of Ontario—with grave responsibilities. His duty was to be loyal to the council. He found himself in a minority, however, and grew restive. As a consequence, apparently, he wrote a letter a few weeks ago, in which he practically urged the profession to open rebellion against the body of which he was a trusted member. That letter, as we have before indicated, was utterly unjustifiable in every



respect. We have nothing to withdraw from our first comments ; but, at the same time, we have no desire to be drawn into a discussion of irrelevant issues—especially those which are personal in their nature.

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#### THE PRESIDENT'S ADDRESS.

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THE address of the president of the Canadian Medical Association, Dr. Thorburn, which we publish in this issue, was exceedingly well received. He was one of the fathers of the association, having been present at its first meeting in Quebec, 1867 ; and his long experience as a prominent member of the medical profession of Canada, a teacher in one of our most prosperous medical colleges, a member of the Medical Council of Ontario, a railway surgeon, a hospital surgeon, a member of various medical societies in Canada and the United States, a medical director of an important life insurance company, enabled him to speak with considerable authority on many important subjects.

He made a new departure, as far as the association is concerned, in referring to the relationship of medical men to life insurance, and gave many interesting details in connection with the subject. It was a source of regret to some that he was unable to devote more time in elaborating some of the matters to which he made only brief mention.

One of the most important matters which he discussed is the question of inter-provincial registration, which has occupied the minds of prominent physicians in all parts of Canada for some time. Dr. Thorburn has definite views on the subject, which he expressed in clear and concise language. The committee which has had the subject under consideration for two years framed several clauses of their report on the lines laid down in his address. His opinions are very important in consequence of the position he holds in the Ontario Medical Council, which at present demands a course of five years. In assuming the attitude he does he shows a disposition to respect the views of all the other provinces, and such a conciliatory spirit is greatly needed in the settlement of the question of general registration for the Dominion.

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#### PARTYISM IN THE MEDICAL COUNCIL.

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WE have before alluded to the fact that partyism is somewhat conspicuous in the Ontario Medical Council. We presume, from Dr. Sangster's letter in the August issue of the *Canadian Medical Review*, that there are, in his opinion, three parties, viz., the majority, the defence men, and the independents. If we accept this as correct—and it is certainly not far wrong—we may ask whether such a condition of affairs is

desirable. It will probably be generally conceded that partyism is not essentially bad ; but we think, at the same time, most will admit that the exhibition of personal animus between the members of the opposing parties does not add to the dignity or usefulness of any deliberative assembly. Who are responsible for the bear-garden exhibitions which have become too frequent lately in the Medical Council? Would it be wrong to suggest that the member who revels in letter-writing can claim a fair share of the responsibility?

Dr. Sangster, in his August letter, occupies five pages of the *Review* in demonstrating the singular fact that the majority rules in the council. Well, this has frequently happened before in public and semi-public bodies ; and we must confess that it will be difficult to devise any means which will prevent its frequent recurrence in the future. The doctor gives no evidence that he is able to furnish any solution of the difficulty. In fact—and we hope he will forgive us for saying so—his letter is rather weak, and not at all up to his average standard.

However, he has another grievance. The majority frequently holds a "caucus." We will suppose this is true, although we have no definite information on the subject apart from Dr. Sangster's statement. The question thus arises, Is it a crime for three, or thirteen, or more members of the council to meet at any time or place they choose for the purposes of deliberation or discussion? We will not now undertake to answer the question ; but, in any case, we can scarcely see how anyone is going to prevent such a meeting. Has the minority, or any portion of it, ever held a caucus? The doctor is not contented with a calm statement of the facts, and fair criticism of the same ; but goes on to add a few additional words, synonyms probably, such as "ring," "secret junto," "inner circle," "solid phalanx," "unholy league," "cabal," "conspiracy," "faction," "thing," "outrage on decency," "conclave." Does he thus carry out his threat of giving us something "decided," "startling," and "spicy," after the "renewal of hostilities"? If so, the flavor of the spice is rather insipid, and not seriously dangerous. It does not, however, tend to elevate the tone of his communication, but smacks rather of the old schoolboy trick of making faces and calling names.

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#### MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

THE annual meeting of the Canadian Medical Association for the year 1896 was held in Montreal, August 26, 27, and 28. The hopes of those who expected to see one of the most successful meetings the society has known were fully realized. The president and his able staff of officers had worked with commendable zeal for many months, and

the arrangements made and the programme presented were highly creditable to them. The local committee are entitled to the highest praise for the efforts they made to assist the officers of the association in making the meeting a pronounced success. The profession of Montreal fully sustained their well-earned reputation for hospitality, and entertained the visiting members in truly royal fashion.

The various sessions were held in St. George's Church schoolroom, and the three large hospitals of the city—General, Hotel-Dieu, and Royal Victoria. The "clinics" in the hospitals were very interesting, and contributed materially to the success of the meeting. The papers read were above the average in point of merit, and the accompanying discussions were in many cases able and spirited. The president, Dr. Thorburn, of Toronto, won golden opinions for his admirable tact and dignified bearing in conducting the proceedings. It was feared that much valuable time would be lost in travelling between the regular place of meeting and the different hospitals, but the excellent arrangements made by the local committee with the street car company prevented any appreciable waste in this respect. It was the largest meeting the association has known, the numbers present being 168. The largest meeting previous to this was that held in Montreal five years ago, when there were present 135.

The banquet tendered by the profession of Montreal to the visitors was a most enjoyable one in all respects. The idea has gone abroad that the Montrealers know how to give a first-class dinner. They have thus acquired a reputation which handicaps them to some extent, because they cannot possibly improve on what they have done in the past. We have only to say they fully sustained their reputation in 1896, and we can give them no higher praise.

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#### THE "X" RAY.

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MANY conflicting reports of changes in the skin, occasioned by the "X" ray, have appeared in medical journals. We have seen it clearly demonstrated that the ray has an effect upon the skin, but only after frequent and long exposure to its influence. The appearance of the skin strongly resembles severe sunburn, with the accompanying pain, swelling, blistering, and discoloration. The congestion in the hand is very marked, and the hand hanging in the usual dependent position occasions great pain. We have under observation at present a case in which the long exposure to the "X" ray has produced these symptoms, other exciting causes being positively excluded. The face showed the same series of changes as the hands. A full report of the case will be given later on.



A large number of unreliable houses are sending out literature descriptive of portable "X" ray apparatus, cheap, that will do wonders. We warn our readers against these concerns, and advise any physician who contemplates investigation with "X" rays to correspond with some house of undoubted reputation before investing. Reliable apparatus is procurable, and none but the best will give satisfactory results.

### DIPLOMAS FOR ALL.

IT is some years since the diploma mills of the United States made Canada a stamping ground. During the past two months the druggists of Toronto, and, quite possibly, those through the Dominion, have received a circular with copy of diploma enclosed, offering to grant them an M.D. degree, with power to practise medicine, surgery, etc., in five of the States of the Union—all for the sum of ten dollars: no examination necessary. The State Government of Wisconsin, in granting a charter to such a concern as the Wisconsin Eclectic Medical College, is, in reality, a party to a gross fraud. We are satisfied that, on perusal of the following circular, diploma, etc. (which we reprint in full), it will be evident to all that the State authorities have granted a charter to a concern that is abusing its privileges and degrading the laws of Wisconsin:

"Always give your FULL ADDRESS every time you write, no matter how often it may be."

FRED. RUTLAND, M.D., PRES'T.

CHARLES PODMORE, M.D., TREAS.

A. NEVE RUTLAND, M.D., SEC'Y.

Incorporated under the Laws of the State of Wisconsin.

### WISCONSIN - ECLECTIC - MEDICAL - COLLEGE,

OF MILWAUKEE, WIS.

Correspondence Department: 1001 West Congress Street,

Chicago, Illinois, August 18th, 1896.

Mr. . . . ., Toronto.

DEAR SIR,—If you have any aspirations to a profession which runs side by side with pharmacy, and desire to have the append of M.D. to your name, then you are politely requested to read the contents of the enclosed prospectus. The plan as outlined therein gives to the pharmacist an open door to the practice of medicine as a physician. In these days, when the pharmacist is required by law to be as highly educated, as well read, as well versed in the various branches of medical science, and to pass as rigid an examination, and in some countries more rigid than is required of the physician, is there, we ask, any reason why the pharmacist should not avail himself of the opportunity (while he has it), and take yet another step on the ladder of life, and become M.D.? The average pharmacist's knowledge of materia medica, therapeutics, anatomy, physiology, science and practice of medicine, obstetrics and surgery, is usually just as good as the average physician, indeed, many much better, for there are

thousands of practising physicians who never had a single question asked them on the subject, while every pharmacist has been through the fires of inquisitorial examination. The Wisconsin Eclectic Medical College does not wish to make any false statements, nor does it want to deceive. The diploma, if you obtain one, will give you no legal rights in Canada, but it will be of enormous value to you from the prestige alone. The pharmacist who can display an M.D. diploma beside his Ph.G. certificate is the man who is going to do the trade. A reduced size (facsimile) copy of our diploma accompanies this, and gives some idea of what it is like. The regular fee is \$35, but as in Canada it will not be of value, therefore the College has decided to put down the fee to a very low sum—\$10. If you would like one—and please remember they are good, lawful, and valid in Wisconsin, Kansas, Idaho, Wyoming, Michigan, and Indiana—send your name in full (very clearly written), and also the name of your nearest express office, and the College will send you a diploma C.O.D., you to have the right of examination before making payment of the fees.

The diploma is gotten up in the highest style of art, is 18x23 inches in size, and its appearance will do credit to the office of any physician in the world. Please think this matter over, and let us hear from you at as early a date as possible, as this offer is good only for thirty days from date.

FRED RUTLAND, Ph.D., M.D.

#### COPY OF CHARTER.

United States of America, the State of Wisconsin, Department of State.

To all to whom these presents shall come :

I, Henry Casson, Secretary of State of the State of Wisconsin, do hereby certify that there has been this day filed in this department an instrument in writing, purporting to be Articles of Association with a view of forming a corporation to be known as Wisconsin Eclectic Medical College at Milwaukee, without capital stock, the business and purpose of which shall be to conduct a medical college, etc., and verified as a true copy by the affidavit of Fred Rutland, M.D., and Ann Neve Rutland, M.D., who appear in said instrument as two of the signers of said articles ; therefore, the State of Wisconsin does hereby grant unto the said Wisconsin Eclectic Medical College at Milwaukee the powers and privileges conferred by Chapter 86 of the Revised Statutes of the State of Wisconsin and all acts amendatory thereto, for the purposes above stated and in accordance with their said Articles of Association.

In witness whereof, I have hereunto set my hand and affixed my official seal, at the Capitol, in the City of Madison, the thirty-first day of December, in the year of our Lord one thousand eight hundred and ninety-five.

HENRY CASSON, Secretary of State.

Seal.

#### COPY OF DIPLOMA.

Collegium Medicum Eclecticum, Wisconsinense, Milwakiæ. Omnibus has Literas Perlecturis.

SALUTEM.—Quum in omnibus Academicis rite legitimeque constitutis, aut hic aut ubique, gentium, usus laudabilis et antiquus esset ut ù qui vel

literis vel artibus ingenuis vel quibus libet studis liberalibus non minus diligenter quam feliciter, operam dederunt, se interea recte atque honeste gerentes, adornarentur aliquo eximio honore et ad meritam dignitatem attollerentur, et quum nos, per leges Civitatis Nostræ potestatem amplissimam insigniendi decorandique titulis Academicis eos bene merentes teneamus. Hac auctoritate præditi ususque antique haud immemores, judicavimus, atque, concilio convocato decrevimus. Richard Henry Armour egregium studis optimis deditum de cujus moribus probis atque profectu satis compertum, exploratumque habemus, dignum atque indoneumque honoretur altissimo dignitatis gradu; quare, uno animo creavimus et fecimus Medicinæ Doctorem eique omnia jura et privilegia ad illum gradum ubivis gentium pertinentia dedimus et concessimus.

In cujus rei testimonium nos hisce literis Collegii Sigillo munitis nomina nostra subscripsimus.

Datum Ex Ædibus Collegii, hodie Secundo mensis Februarii Annoque Domini nostri Millesimo octingentesimo nonagesimo sexto, et Reipublicæ Americanæ centesimo vicesimo.

Ordo Medicum Collegii Medici Eclectici Wisconsinensis.

FRED RUTLAND, Ph.D., M.D., Decanus.

CHARLES PADMORE, M.D., Thesauri Custos.

ROSA DEMPSTER, M.D., Secretarius.

JULES GORDON, M.D., Prof. Anatomy.

WILLIAM NEWTON, M.D., Prof. Mat. Med. Phcy.

HORATIO MYERS, M.D., Vice Decanus.

Seal.

The prospectus points out that there is no need to attend the College, Degree granted without attendance. The letter states that the degree is of no value in Canada, but that it is equal to the best in the States mentioned. One would infer from the prospectus that attendance is required, but again it says that "it is possible for students to graduate without attendance," and "arrange for their examination before a notary public of their town, and if the examiners of this College can be satisfied they can be legally and lawfully graduated, receiving the diploma of the College conferring the degree of doctor of medicine without attendance at the College." We hope that no druggist will be duped by this circular. The medical authorities in Wisconsin should lose no time in having such an institution wiped out, and should endeavor to have more careful supervision given to medical legislation in the State.



## Correspondence.

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DR. SANGSTER REPLIES.

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To the Editor of THE CANADIAN PRACTITIONER :

SIR,—I am compelled, very reluctantly, to ask for more space in your journal, as I cannot permit to pass without contradiction your averment that I have been, or that I intend to be, discourteous to “those who teach in our medical schools.” I esteem these gentlemen very highly, and I have more than once publicly testified to their ability and high character. With the single exception of yourself, and of you only in this instance, I have never had occasion to complain of or to advert to any one of them individually. Would it be too much to ask the editor of THE PRACTITIONER to instance any specified acts of discourtesy to these gentlemen to which he thinks he has cause to object, instead of simply and profusely “swearing at large”? The acts which emanate from the school men in their corporate capacity are legitimately open to criticism, and to these I have, time and again, addressed myself specifically, and, I hope, in a reasonable manner. That you pretend not to know this is, probably, only another proof that there are none so obtuse as those who will not understand, and is quite in line with your attempt to ignore the fact that the whole of my last letter to your journal is a very specific, and reasonable, and moderate critique on the act of a school man who had grossly misrepresented my published utterances, and who now shows both an inability to justify his misstatements and a disinclination to withdraw them.

I regret that I cannot find any evidence in your last editorial effort that you have, as yet, profitably “pondered upon” what you are pleased to term my “interesting and instructive lecture upon your province as a medical journalist.” In point of fact, this article is as full of misrepresentations as the one already complained of, and by stooping in it to the added use of *garbled* extracts and petty attempts at personal vilification you have taken a further long step downwards towards the plane formerly occupied by your exemplar and prototype—the *ci-devant Ontario Medical*

*Journal.* Let us hope that the mantle of its editor, which, it is only too evident, has fallen on your shoulders, may not prove to be, before you have done with it, a veritable shirt of Nessus. *Facilis descensus Averni.*

Permit me to remind you, sir, that the cuttlefish does not shine as a logician, and that even a copious discharge of printer's ink is not in itself either convincing or satisfactory. I am quite content to leave your editorial and my letter in your last issue to the judgment of your readers. You greatly underestimate their intelligence if you fancy that they will not very generally perceive the fact that when asked to defend or to retract certain inaccuracies and distortions in one of your editorials you try to evade or obscure the issue, and that, practically, your only response is a shrewishly spiteful attempt to scratch my face by saying that my letter, or one part of it, is "simply a wail of despair from an unfortunate and injured man, who has been compelled to pay a debt." I would, were it in my power, have that extract from your article printed in caps, or italics, as a notable example of what a respectable journal can sometimes condescend to. It is generally conceded that the *argumentum ad hominem* is the weakest weapon in the armory of dialectics, and when it is dipped in the venom of personal malevolence it commonly more deeply wounds the hand that uses it than the mark at which it is aimed. You have at times tried to pose as an independent journalist, and more than once in the past you have resented the assertion that, prior to the establishment of the *Canadian Medical Review*, the public press was the only unobstructed avenue of access to the profession open to a medical man in Ontario. Yet you must be well aware that just as soon as ordinary correspondents find that, if you do admit their letters to your columns, you hold yourself at liberty to traverse them unfairly, to garble their contents, and to condescend to the use, editorially, of means which are eschewed in all honorable controversy, you absolutely close THE PRACTITIONER to all communications that do not happen to march with your personal ideas and your private or corporate interests, and that, furthermore, by so doing you confess your journal to be what it really is—simply and solely the organ of a competing medical school.

I can afford to smile at your insinuation that my written utterances are both obscure and insincere. You cannot persuade a score of medical men in the province that I ever leave anyone of ordinary intelligence in doubt as to what I mean, or that I ever speak or write otherwise than *ex animo*. Oddly enough, the leading editorial in your last issue brings out the startling fact that possibly, in this case, by arguments more forcible than syllogisms, you have been driven to apologize to a business opponent, and humbly admit that you yourself do sometimes say what you do not

mean and mean what you do not say. How true it is that "people who live in glass houses should not throw stones" !

JOHN H. SANGSTER.

Port Perry, Sept. 4th, 1896.

[The statements in the last portion of this letter are not correct, as Dr. Sangster may learn by a careful perusal of the two editorials to which he refers.—ED.]

### INQUEST AND MEDICAL EVIDENCE.

To the Editor of THE CANADIAN PRACTITIONER :

DEAR SIR,—Permit me through your columns to draw your attention, as well as that of the profession generally, to some of the facts in connection with the recent street railway accident which occurred at the junction of Queen street and Spadina avenue. As is usual in such cases, all the doctors in the neighborhood were summoned ; and, in this case, three responded and remained with the unfortunate lady and attended to her until her death, which occurred about twenty minutes after the accident. The police took charge of the body and notified a coroner, who issued a warrant for an inquest. Instead of conducting the inquest himself he handed that part over to a second coroner, but coroner number one delegated himself to make the post-mortem examination, and gave the medical evidence at the inquest. The second coroner is said to have stated that he had nothing to do with appointing a physician to make the post-mortem, that the case was really not his at all, but that he was simply doing the work for his confrère. It would seem therefore that the coroner who issued the warrant for the inquest, and who was in reality the actual conducting coroner, appointed himself to make the post-mortem and act as chief crown witness, while at the same time he is an official of the Street Railway Company. Now, sir, does this not smack of unfairness to the rest of the profession, and is it not also a case of most outrageous injustice to the public generally ? It may be all very well to pass over the case of the friendless old lady lightly ; but supposing the next time you are the victim and your friends bring suit against the Street Railway Company on behalf of your family, who have lost their only means of support, will it be comforting to know that the coroner, or chief medical witness, or both, are paid officials of the Street Railway Company ? It is a well-observed rule that the physician who last saw a case in life or the attending physician conducts the post-mortem. Whether this custom is right or wrong I will not discuss, but in the absence of an official pathologist it seems only fair.

ONE OF THE PHYSICIANS.

Toronto, Sept. 10th, 1896.



## Meetings of Medical Societies.

### CANADIAN MEDICAL ASSOCIATION.

THE regular annual meeting of the above association was held in St. George's schoolhouse, Montreal, August 26th, 27th, and 28th.

Dr. James Thorburn, of Toronto, filled the chair in a most able manner.

Dr. T. G. Roddick, M.P., in a short speech, welcomed the visitors.

The committee on Inter-Provincial Registration, after a preliminary discussion of the question, selected a sub-committee, made up of representatives of all the councils of the Dominion except the Northwest Territories and British Columbia, to draft a scheme whereby this much-discussed matter might be settled.

Dr. C. F. Martin, of Montreal, read a paper entitled "Certain Observations on the Relation between Leucæmia and Pseudo-Leucæmia."

The association then adjourned to the General Hospital, where several clinics were given.

Dr. F. J. Shepherd presented a young woman upon whom he had operated for gastric ulcer, relating the history of the case and the technique of the operation.

The second patient was a man who had received a fracture of the skull, accompanied by depression of the fractured portion and immense hæmorrhage. Besides trephining a large area, he was obliged to ligature the common carotid artery, having discovered a rupture of the meningeal artery at the foramen spinosum.

A boy was then shown who had received an injury about the middle of the forehead from a bursting emery stone, the inner table being more damaged than the outer. The fractured portion was removed.

A thirteen-year-old girl was shown, in whom he had done excision of the ankle for tuberculous disease. The result was good.

The next patient had undergone operation for cancer of the bulbous portion of the urethra, everything being removed down to the prostate gland. Patient was doing well.

Clinics were also given by Dr. Blackader and Dr. Hutchinson.

Dr. F. J. Shepherd presented a young woman with a cervical rib, and also an interesting case of urticaria, the condition being easily induced by drawing the finger across the skin of the patient. The doctor also presented a case of psoriasis.

Dr. C. W. Wilson gave a clinic on flat-foot. He described the method of making Whiteman's plates, and explained the *rationale* of their action.

A child was then presented, a sufferer from tubercular disease of the cervical vertebræ. Before the present treatment of splint and jury mast she had suffered from meningitis and pachymeningitis.

A case of fracture of the neck of the femur was also given.

Dr. George C. Campbell presented a patient who was convalescing from scurvy.

Luncheon was provided for the members. A street car excursion about the city, lasting an hour, was then taken.

On reassembling, Dr. H. H. Meek, of London, read a report of

#### THREE CASES OF ABDOMINAL SECTION FOR CONDITIONS COMPARATIVELY RARE.

The first was for fibro-cystic tumor of the uterus, removed with appendages, after having been observed a year, the stump being fixed with a *serre-nœud* wire and pins. A good recovery. The second case was one of solid sarcomatous tumor of the ovary. A smooth recovery was checked, at the end of five days, for a few days by trouble from a stitch abscess. The third case was one of volvulus of the splenic flexure of the transverse colon, due, as was discovered, to a half twist of the bowel upon itself, apparently caused by old inflammatory adhesion bands in its mesentery. After a good recovery, unaccountably the patient succumbed from an attack of acute mania.

Dr. Proudfoot showed a baby two months old with an imperforate external meatus. He purposes relieving the condition.

Dr. R. Ferguson, of London, read a paper on

#### OPHTHALMIA NEONATORUM.

The paper referred first to the widespread prevalence of the disease. The main element in its causation was the gonococcus. The important point in the treatment was prophylactic; and this consisted in disinfection of the vagina, where a discharge was present. The second point was to follow the plan of Credé—to cleanse the infant's eyelids and then instil two or three drops of a one or two per cent. solution of silver nitrate. If the disease be established, thorough cleansing by frequent flushing with a mild antiseptic solution and the application of cold water in the early stages was recommended. After discussing the complications the reader discussed the question of preventive legislation, and moved, in closing, a

resolution that this association should call the attention of the various Provincial Boards of Health to this matter, and recommend that ophthalmia neonatorum be placed on the list of contagious diseases, and be subjected to the same restriction. This carried.

Dr. T. T. S. Harrison, of Selkirk, read a paper on some observations on the

#### HEREDITY OF CANCER.

In this paper the reader referred to many cases of cancer which had come under his notice during his long experience. Its occurrence in members of a family in one generation after another seemed to impress him that either cancer was hereditary, or, more possibly, the tendency to this form of disease was transmitted.

Prof. Wesley Mills complimented the reader on his paper, and pointed out the importance of the study of heredity, a most interesting subject. He advised that practitioners should take notes of cases where heredity was suspected.

Dr. Thorburn, President, then delivered his annual address.\*

#### THURSDAY MORNING.

The association met in McGill Medical Building.

Prof. G. P. Girdwood gave a demonstration of the "X" rays.

#### CLERGYMAN'S SORE THROAT,

was the subject of a paper by Dr. Price-Brown, of Toronto. This name was an improper one, because it gave no idea of any definite pathological condition. By old writers it was confined to a chronic follicular pharyngitis. The tendency now was to discard the term. Most chronic throat diseases to which clergymen were subject were dependent on nasal or naso-pharyngeal disease. When this was treated, generally the throat would get better. The doctor cited the history of a series of cases, which fully bore out his statement.

Dr. George Wilkins, of Montreal, read the address in medicine, his subject being

#### THE MODERN TREATMENT OF SOME DISEASES AS THE RESULT OF EXPERIMENTAL INVESTIGATION.

The essayist first dealt with the work of Jenner and Sir Joseph Lister in stimulating original research in the fields of medicine and surgery. Pasteur's work was also a wonderful example of development as a result of close observation. The relation between vaccination and modern serum therapy was then discussed. The principle depended upon the fact that the blood serum of animals, highly immunized by artificial means to any bacterial disease, possesses the property of protecting other animals against the same disease, and that this protection is afforded whether the serum is

\* See page 629.



administered before, simultaneously with, or after the injection, provided in the latter case that the disease has not advanced too far before the protective injection is made. The treatment of diphtheria, tuberculosis, typhoid fever, pneumonia, pyæmia, septicæmia, and tetanus was then discussed in the light of the most recent experiments. The influence of the discovery of the function of various blood-elaborating glands in the treatment of diseases by various extracts was then treated in an exhaustive way.

#### ETIOLOGY AND TREATMENT OF ACNE VULGARIS.

This was the title of a paper by A. K. Robinson, of New York. This paper dealt with the causes of the disease, maintaining that they were mainly local, and not due to constitutional disturbances of the stomach, uterus, etc. So, in treating the condition, the local treatment was of greatest importance. The keratosis and the comedones should be removed; the skin and follicles should be disinfected; the frequent accompanying seborrhœal condition should receive attention; the physiological function of the expulsion of the sebum should be assisted by adding tonicity to the glands. In addition, any disorders of the general system should be looked after and prophylactic measures should be attended to, especially during puberty.

A telegram was received from Dr. John Coventry, president of the Ontario Medical Association, expressing his inability to be present, and conveying a fraternal greeting to the Dominion association.

Prof. Wesley Mills presented a pigeon from which the whole brain had been removed; a rabbit, from which the motor centre for the limbs on both sides had been removed; a cat, from which the right motor area had been removed; a cat from which both sides, at different dates, had been removed; and a puppy, from which the right motor area had been removed. From these experiments he deduced the idea of the greater importance of the motor centres in the higher animals. He discussed the localization theory at some length.

Dr. Wm. Osler drew attention to the wonderful precision with which surgeons could now cut down upon brain lesions. He reported some cases.

Dr. W. B. Thistle then read a paper on

THE ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER, in which he still upheld the theory he has advocated. He drew attention to the *rationale* of the treatment, basing it upon physiological and pathological grounds. The results in Toronto General Hospital, where the method had been but indifferently carried out, and in his own practice, proved it to be the most satisfactory form of treatment. He said that many men had misconceptions of what he had meant to convey by the

term eliminative, and one author had stated that the treatment was not based on correct views of the pathology of the disease. Dr. Thistle vindicated his position by referring to the most recent researches which have been made.

Dr. Wm. Osler claimed that the theory was a very good one, but the practice was fraught with danger. His preference was for the cold bath treatment, through the influence of which the toxines were eliminated by the skin and kidneys.

The association then adjourned to Hotel-Dieu, where Sir William Hingston is high priest. Sir William, in his gracious manner, welcomed the members, gave a résumé of the progress of surgery since he first began practice nearly forty years ago, impressing some very valuable hints for young practitioners, and presented some surgical cases. A substantial luncheon was then provided for the guests.

Dr. D. Campbell Meyers, of Toronto, presented a patient with hereditary cerebellar ataxia, and read the history of the case.

Dr. Stewart, of Halifax, read a paper reviewing the work of Lister, his old teacher, particularly his work in the experimental pathology of inflammation.

Dr. F. LeM. Grasett, Toronto, one of Lister's pupils, followed by a few appreciative remarks on his labors in the advancement of medical science, and commendatory of the spirit in which the great master worked.

Dr. D. Marcil, of St. Eustace, Que., read a paper on

#### THYROIDECTOMY.

A paper on

#### ORAL SURGERY

was presented by G. Lenox Curtis, of New York, which advocated the teaching of this branch of study in medical colleges.

Dr. F. Buller, of Montreal, reported some cases of foreign bodies in the eye, in which the electro-magnet was used successfully. This was discussed by Drs. R. A. Reeve, of Toronto; G. L. Curtis, of New York; and R. Philp, of Hamilton.

In the evening a splendid banquet was held at the Windsor Hotel.

#### FRIDAY MORNING.

Dr. J. F. W. Ross, of Toronto, gave the address on "Midwifery."\*

Dr. J. C. Webster, of Edinburgh, read a paper on

#### THE PLACE OF PESSARIES IN GYNÆCOLOGICAL TREATMENT.

The paper drew attention to the fast disappearance of the use of these instruments as a better knowledge of accompanying pathological conditions

\* See page 636.

was being acquired, which conditions, when treated, did away with the necessity for supports. Those cases in which supports were of use were described.

Dr. Laphorn Smith, of Montreal, read a paper of one hundred and ten operations for retro-displacement of the uterus, of which forty-two were Alexander's operations of shortening the round ligaments, and sixty-eight ventrofixations or suspensio-uteri operations. The results of both operations had, on the whole, been very satisfactory.

Dr. Playter prepared a paper on "Cold Air in the Treatment of Consumption," which was read by title.

The report of the Committee on Inter-Provincial Registration was presented and adopted, as follows :

"Your committee beg leave to report that, having examined the present requirements of the licensing boards of the several provinces, with a view to obtaining by mutual concession a uniform standard of matriculation, education, and examination, would recommend the following :

"I. *Matriculation*.—The schedule of subjects shall comprise : (1) English language and writing from dictation ; (2) arithmetic, including vulgar and decimal fractions and the extraction of the square root ; (3) algebra, to the end of the simple equations ; (4) geometry, Euclid, books, 1, 2, and 3, with easy deductions ; (5) Latin, grammar, translation from specified authors, or of easy passages ; (6) elementary mechanics of solids and fluids, comprising the elements of statics, dynamics, hydrostatics, and elementary chemistry ; (7) history, England and Canada, with questions in modern geography ; (8) and any one of the three following subjects : French, Greek, and German—the requirements being the same as in Latin.

"Fifty per cent. of the marks in every subject shall be necessary for a pass, and 75 per cent. for honors.

"In lieu of the above will be accepted a degree in arts of any university in Her Majesty's dominions, or from any college or university that may hereafter be recognized, but no matriculation in arts in any university will be recognized.

"II. *Professional Education*.—The curriculum of professional studies shall begin after the passing of the matriculation examination, and shall comprise a graded course in the regular branches of four yearly sessions of not less than eight months of actual attendance on lectures in each year, the subjects to be anatomy, physiology, chemistry, materia medica, therapeutics, practical anatomy, histology, practical chemistry, pharmacy, surgery and clinical surgery, medicine and clinical medicine, including diseases of the eye, ear, throat, and nose, mental diseases, diseases of women and children, medical jurisprudence, toxicology, hygiene, pathology, including bacteriology.



"That at least twenty-four months out of the graded four years, of eight months each, be required for attending on hospital practice, to begin with the second year of study. That proof of attendance on not less than six cases of obstetrics be required.

"III. *Examination.*—(a) All candidates for registration, in the various provinces, in addition to having fulfilled the foregoing requirements, shall be required to undergo examination before examiners to be appointed in each of the provinces by their respective councils, or by means of assessors, as in the Province of Quebec, or by delegating their authority to one central body, as has been done in Manitoba. Each examination shall comprise all the subjects of professional study, shall be both written and oral, and 50 per cent. of the marks shall be required in every subject for a pass. (b) The committee make these resolutions merely as suggestions for the consideration of the councils of the several provinces as a mutual basis of agreement, and that each be requested to report thereon to the next annual meeting of the association, and also to send one or more delegates to represent them at that meeting.

"In order that the councils may be enabled to consider the question with a full knowledge of the facts, it is decided that each registrar should send to every member of every council in Canada a copy of the statutes and of the regulations in connection with the council that he represents."

The following nominations were reported: President, Dr. V. H. Moore, of Brockville, Ont.; vice-presidents, Dr. James Conroy, Prince Edward Island; Dr. J. F. Black, Nova Scotia; Dr. T. Walker, New Brunswick; Dr. Beausoleil, Quebec; Dr. W. W. Dickson, Ontario; Dr. R. S. Thornton, Manitoba; Dr. E. H. C. Rouleau, Northwest Territories; and Dr. Hannington, British Columbia. Local secretaries, Dr. H. D. Johnston, Prince Edward Island; Dr. A. J. Maden, Nova Scotia; Dr. G. A. Addy, New Brunswick; Dr. J. G. McCarthy, Quebec; Dr. W. G. Anglin, Ontario; Dr. W. H. Smith, Manitoba; Dr. George Macdonald, Northwest Territories; and Dr. A. W. Reed, British Columbia; Drs. F. N. G. Starr, of Toronto, and H. B. Small, of Ottawa, to be re-elected general secretary and general treasurer respectively.

At 12.30 the members repaired to the Royal Victoria Hospital, where clinical demonstrations were held. The visitors were afterwards entertained to luncheon.

#### FRIDAY AFTERNOON.

The first paper presented was by Dr. J. E. Graham, of Toronto, entitled, "The Influence of Mitral Lesions on the Existence of Pulmonary Tuberculosis." \*

\*Will appear in THE PRACTITIONER.

Dr. W. Tobin, Halifax, read a paper on "Militia Medical Reorganization."

Dr. Thos. Roddick commended the scheme. In his experience, at the time of the Riel rebellion, militia medical affairs were in a very poor state; some arrangement was badly needed.

Short papers were also read by Dr. J. B. McConnell, Montreal, on "Tetany following Scarlatina"; Dr. F. J. Shepherd on "Excision of the Scapula"; Dr. H. L. Reddy on "Streptococcic Infection—Injection of Anti-Streptococcic Serum—Recovery"; Dr. Martigny on "Electric Baths in Dyspepsia"; Dr. H. D. Hamilton, of Montreal, on "Non-Malignant Tumors of the Tonsil," with report of a case.

Montreal was chosen as the place of the next meeting.

## Book Reviews.

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**PRACTICAL POINTS IN NURSING.** For nurses in private practice. By Emily A. M. Stoney, graduate of the Training School for Nurses, Lawrence, Massachusetts; Superintendent of Training School for Nurses, Carney Hospital, South Boston, Massachusetts. Philadelphia: W. B. Saunders, 925 Walnut street.

The skilled nurse is an important creation of modern times. Her usefulness and efficiency depend, to a large extent, on the character of the training she receives in hospitals where systematic courses of instruction are given. Text-books are, of course, valuable as aids to those who wish to excel. In this book the author has attempted to explain in popular language and in the shortest possible form the entire range of private nursing as distinguished from hospital nursing, and to instruct the nurse "how best to meet the various emergencies when distant from medical or surgical aid, or when thrown on her own resources, studiously refraining, however, from advising the nurse to act upon her own responsibility or to assume personal treatment of the patient, except under circumstances of great urgency." We have only to say that she has succeeded well and supplied a book which will be found very useful to both nurses and general practitioners.

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**ANATOMY, DESCRIPTIVE AND SURGICAL.** By Henry Gray, F.R.S., Lecturer on Anatomy at St. George's Hospital, London. New and thoroughly revised American edition, much enlarged in text, and in engravings, both colored and black. In one imperial octavo volume of 1239 pages, with 772 large and elaborate engravings on wood. Price of edition with illustrations in colors: Cloth, \$7; leather, \$8. Price of edition with illustrations in black: Cloth, \$6; leather, \$7. Lea Brothers & Co., Publishers, New York and Philadelphia.

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**DEFORMITIES: A TREATISE ON ORTHOPÆDIC SURGERY,** intended for Practitioners and Advanced Students. By A. H. Tubby, M.S. Lond., F.R.C.S., Assistant Surgeon to and in charge of the Orthopædic Department in Westminster Hospital; Surgeon to the National Orthopædic Hospital; Surgeon to Out-Patients, Evelina Hospital for Sick Children; Joint Honorary Secretary British Orthopædic Society; Late Senior Demonstrator of Physiology, Guy's Hospital. Illustrated with fifteen plates and 302 figures, of which 200 are original, and by notes of 100 cases. Cloth 8vo. Price, \$5.50. The MacMillan Co., 66 Fifth Avenue, New York.



## Medical Items.

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DR. W. L. COULTHARD (Tor., '94) has gone to Rossland, B.C.

DR. GEORGE A. PETERS, of Toronto, returned from England on September 7.

DR. CAMERON, of Toronto, expected to leave England for Canada on September 15.

DRS. NEVITT and Wishart, of Toronto, returned from England about the middle of August.

DR. FRED WINNETT, of Toronto, has removed from Wilton avenue to 525 Sherbourne street.

IT is stated that 20,000 persons die each year in India alone from the direct effects of venomous snake bites.

DR. W. H. B. AIKINS, of Toronto, started on a trip to Winnipeg and British Columbia early in September.

DR. J. FRANK MCCONNELL (Tor., '95), of Toronto, is acting as *locum tenens* for Dr. Darby, who is off on a holiday.

DR. THOMAS MCCRAE (Tor., '95), one of the General Hospital residents, is now at Johns Hopkins Hospital, Baltimore.

DR. E. M. HEWISH (Tor., '83), of Philadelphia, after spending a couple of weeks in Toronto, left for home on September 2.

DR. JOHN SHEAHAN (Tor., '95), one of last year's residents in the Toronto General Hospital, has settled in St. Catharines.

DR. W. J. CHAPMAN (Tor., '95), one of last year's resident physicians in the Toronto General Hospital, is practising in Thedford, Ont.

DR. J. T. DUNCAN expected to sail from England on September 9 and resume practice in Toronto in the latter part of the same month.

DR. ALLEN BAINES, of Toronto, after a vacation of six weeks, returned to his home on September 4. He spent about four weeks in England.

DR. ARTHUR A. SMALL (Tor., '95), one of last year's resident staff in the Toronto General Hospital, has gone to England to take a post-graduate course.

DR. JOHN H. PACKARD, of Philadelphia, has resigned from the surgical staff of the Pennsylvania Hospital, and is succeeded by Dr. Wm. Barton Hopkins.

THE third annual meeting of the American Academy of Railway Surgeons will be held in Chicago, Ill., at the Auditorium on Wednesday, Thursday, and Friday, September 23, 24, and 25, 1896.

DR. SHEARD, the Medical Health Officer of Toronto, says that in a number of instances patients suffering from typhoid fever in this city contracted the disease in other localities during their holidays.

DR. A. MCDIARMID, formerly Professor of Obstetrics and Gynæcology in Manitoba Medical College, has removed to Chicago, and is now Professor of Obstetrics in the Post-Graduate Medical School and Hospital in that city.

PROF. WILLIAM MCEWAN, the distinguished surgeon from Glasgow, passed through Canada on his way to California in the latter part of August. We understand that he is now giving a short course of lectures in Stanford University, San Francisco.

DR. JAMES F. W. ROSS, of Toronto, left home in the latter part of August for the Pacific coast. After a short stay in Victoria and Vancouver, he expected to return to northern Manitoba in time for the fall shooting, after which he will come east and reach his home about September 26.

DR. TEMPLE had a vacation of about ten weeks, the first holiday of any length that he has had since he commenced practice in Toronto. He spent the greater part of the time in England and Scotland, but was on the continent about two weeks. He returned to Toronto on September 7.

It is reported by the daily press that a prominent merchant of Boston has donated \$100,000 to endow a chair of comparative pathology in the medical school of Harvard University. The value of the gift is augmented by the fact that this will be the first establishment of a professorship of comparative pathology in any of the great universities of America.

RESOLUTIONS ON LOVE.—Whereas Dr. I. N. Love has found it incumbent on him to sever his connection with the Marion-Sims College of Medicine, the members of the faculty of that institution embrace this occasion to express their appreciation of his past services, and to extend to him their hope that in all his future connections he will find both pleasure and profit.—*Ex.*

SELF-RESPECT MORE VALUABLE THAN POSITION.—Dr. James G. Kiernan, of Chicago, informs us that after an editorial service of nearly ten years upon the *Medical Standard* he has now severed his connection with that journal, because of insistence "by the publishers upon intruding nostrum advertisements, and the conversion of the journal into a 'write-up' organ for nostrums and allied performances."—*Ex.*

EDWIN LORD WEEKS, in "From the Black Sea Through Persia and India," states: "Wherever a medical officer reported on the condition of his men just returned from active service in Burmah or elsewhere, it appeared that the best soldiers, morally and physically, those who were always exempt from such maladies as dysentery, fever, cholera, and rheumatism, were the opium eaters; they were able to go longer without food or stimulants and to do more work."

**A POCKET FULL OF SPOONS.**—A physician recently appeared at a meeting of his medical association in this condition. He stated that he had accumulated them at the houses of his patients and measured their capacity, which he found different in every case, ranging from two-thirds to three times the standard capacity. One teaspoon held exactly five times as much as another. He had brought them to serve as a warning to his colleagues in ordering their medicines.—*Journal of the American Medical Association.*

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**BILL NYE ON APPENDICITIS.**—In one of the late Bill Nye's recent effusions he makes the following reference in regard to appendicitis. In speaking of this disease, he says : "A case of appendicitis required an operation some weeks ago, and the surgeon had never tried it before. When he had removed the inflamed appendix, on account of some typographical errors that he found in it, he began to put back the other organs, but after three or four days, and an apparent healing of the wound 'by first intention,' he found an odd-looking organ behind the lounge that had evidently been left out. The other doctors have worried him a good deal about it, and at the funeral of the patient tried to get the clergyman to make an allusion to it in the sermon. A doctor can't be too careful in that way. I once knew a young surgeon to operate for appendicitis on a large, roomy man, and had it not been for a timely autopsy he would not have known to this day that a good twenty-cent cigar dropped out of the physician's pocket during the operation and was sewed up in the patient's annex. Had it not been for the post-mortem the cigar would have been a dead loss."—*Journ. Mat. Med.*

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**ANECDOTE OF DR. LEIDY.**—Dr. William Hunt, the famous surgeon, tells the following anecdote concerning the venerable doctor : The only instance I ever knew of Dr. Leidy's departure from strict truth was, to a medical man's way of looking at it, a very amusing one. Some years ago he came to my house in quite an enthusiastic mood, and said : "Dr. Hunt, do you know that they are moving the bodies from a very old burying-ground down town to make way for improvements?" "Yes," I said. "Well," he went on, "two bodies turned into adipocere are there (this is an ammoniacal soap and the bodies are commonly called petrified bodies). They have been buried for nearly a hundred years ; nobody claims them, and they would be rare and instructive additions to our collections." "All right ; I shall be delighted." So Leidy went down to secure the prize. When he spoke to the superintendent, that gentleman put on airs, talked of violating graves, etc., so the discomfited doctor was about to withdraw. Just then the superintendent touched him significantly on the elbow and said : "I tell you what I do, I give bodies up to the order of relatives." The doctor took the hint, went home, hired a furniture wagon, and armed the driver with an order reading : "Please deliver to bearer the bodies of my grandfather and grandmother." This brought the coveted prizes, and the virtuous caretaker was not forgotten.

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**AMERICAN PUBLIC HEALTH ASSOCIATION, 1896.**—The American Public Health Association will convene at the city of Buffalo, N. Y., Tuesday, Sep-



tember 15, at 10 o'clock a.m., and continue for four days. The sessions of the association will be held at the Ellicott Square. In the building are the hall for the place of meeting, rooms for committees, restaurant, telegraph facilities, club room—in short, every comfort and convenience that would contribute to the success of the meeting. The Executive Committee have selected the following topics for consideration : (1) "The Pollution of Water Supplies" ; (2) "The Disposal of Garbage and Refuse" ; (3) "Animal Diseases and Animal Food" ; (4) "The Nomenclature of Diseases and Forms of Statistics" ; (5) "Protective Inoculations in Infectious Diseases" ; (6) "National Health Legislation" ; (7) "The Cause and Prevention of Diphtheria" ; (8) "Causes and Prevention of Infant Mortality" ; (9) "Car Sanitation" ; (10) "The Prevention of the Spread of Yellow Fever" ; (11) "Steamship and Steamboat Sanitation" ; (12) "The Transportation and Disposal of the Dead" ; (13) "The Use of Alcoholic Drinks from a Sanitary Standpoint" ; (14) "The Centennial of Vaccination" ; (15) "The Relation of Forestry to Public Health" ; (16) "Transportation of Diseased Tissues by Mail" ; (17) "River Conservancy Boards of Supervision." Upon all the above subjects special committees have been appointed. Papers will be received upon other sanitary and hygienic subjects also. The local committee have also made ample provision for the entertainment of members and ladies attending.

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THE BLACKSMITH AND THE PHYSICIAN.—A certain man was hanged, and he died, and he left two sons—honest men. Now, one of these sons was a blacksmith, but the other became a physician. And after their father had been taken from them these brothers made their homes in other lands. And the blacksmith would have prospered, but it befell that someone asked him how his father died. And the blacksmith, looking angrily upon him, answered : "He was hung." For the blacksmith was an honest man. Howbeit presently, when a horse was missing, men gathered and seized and hanged the blacksmith, saying : "This man must take after his father." So the blacksmith did take after his father. And, at the same time, in his own city, one inquired of the physician by what means his father died. And the physician covered his face and wept. But while he wept he considered, saying within himself : "If I say he was hanged then shall I shock this man, and give him pain. Nevertheless I must tell the truth." He said, therefore : "My father died of heart failure." And again he wept, the questioner weeping with him. Then, this being told, men said : "Doubtless, since his father died of heart failure this good physician and loving son has made a study of kindred diseases." So they resorted unto him. And the physician became a specialist, and he looked at them who came in, and coughed once and sneezed twice, and demanded \$100. And they gave gladly. For the physician was an honest man.—*Indian Medical Record.*

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A CASE OF SOMNAMBULISM.—On awaking one morning recently, a Dutch farmer, of Heerenneen (Drenthe), perceived with astonishment that his wife was no longer in bed beside him. In one corner of the room lay her shoes, and in another her clothing, but of the good dame herself not a trace could he find

anywhere about the premises. Greatly alarmed, he called in the aid of the police, and all day long there was a most energetic search for the missing housewife, but without avail. At length, towards evening, a peasant came forward and said that shortly after daybreak he had seen a woman in her night clothes wandering about near the village of Bonenknype. At the time he was inclined to think it was an apparition, for in the uncertain light the figure had a most unearthly look, but perhaps, after all, he was mistaken. Upon hearing this tale, the farmer at once started off in the direction indicated, and finally succeeded in finding his wife at the house of her sister, which is distant three leagues from Heerenneen. The wanderer had arrived there at about seven o'clock in a dazed condition and half dead with cold. She had no recollection of leaving her home and could give no account of the journey she had undertaken in such extremely light marching order. Before reaching her sister's place she had to cross a score or more of narrow bridges, some of them mere planks, and was likewise obliged to jump several formidable ditches. The fact that under these circumstances she escaped an accident is looked upon by the simple peasantry as well-nigh miraculous, but seems to bear out the general supposition that people in a state of somnambulism are able to perform gymnastic feats which they could not attempt in their waking moments.—*Indian Medical Record.*

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SUICIDE AND ACCIDENT INSURANCE POLICIES.—A short time ago the question of liability for payment of £1,000 in a case of drowning came before the Scottish Court of Session. The case entirely depended on probabilities. A seafaring man, who had for some time been employed on shore, threw up his place, alleging that his health was not in a good state. He consulted a doctor about himself, and was told that he was run down and required a holiday. He went up to a place in the Highlands, and the same afternoon walked twelve miles to a loch, where, after taking a very light meal, he rowed about in a boat from 6 p.m. to 8.30 p.m., when he was last seen. This was in the month of April. Next morning the boat was found, with his clothes left in it, but his body was never discovered. The chief question, of course, was: Had he committed suicide, or had he been drowned while bathing? A great point on the side of the defenders was made of the finding of the clothes, while three medical witnesses for the company gave it as their opinion that, although they knew of no exactly similar case, a suicide might very reasonably be suspected of removing them, as their acts before the actual deed were often very unreasonable. On the other hand, anyone who bathed after sunset from a boat on a rough night did not seem to be very rational. The court decided that probabilities were against suicide, and gave the relatives the benefit of the doubt. Shortly afterwards a striking confirmation of the truth of the evidence of the medical witnesses was supplied by the details of the suicide by drowning in a well-known case in England. As this is now common property, it may be mentioned that the lady who drowned herself took off almost all her clothes before entering a shallow pond. In this she showed a much clearer appreciation of the part played by clothing when a person is in the water than the medical witness called for the relatives in the first case. Clothing undoubtedly

impedes the power of swimming, but it hinders the sinking of the body very considerably, while it is of great service in preventing the danger of shock from cold. It was given in evidence in the case first mentioned that if a man wished to drown himself he would not take off his clothes. This proposition does not seem to be quite correct, for with clothes on one is more likely to float longer, and not to suffer so much from a "cold-stroke." The reason of this is plain. All clothes, especially if woollen, are when wet very impervious to air, and the imprisoned air under them can only escape gradually. The case is an interesting one both from a legal and from a medical standpoint, but as the verdict is possibly to be appealed against we cannot enter further into it at present.

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OBITUARY.

WILLIAM T. HARRIS, M.D., C.M.—We have to announce, with very deep regret, the death of Mr. W. T. Harris, which took place at his home in Brantford, on the evening of August 26th, at the age of 44. He had been slightly (as it was thought) indisposed for a few days, but went out driving on the day of his death. At ten o'clock of that evening, while resting on a couch, he had an apoplectic seizure, and died in a few minutes. He was well known as one of the ablest physicians in that portion of Ontario, and held many prominent positions in medical, political, and military organizations. He was a Conservative in politics, and was at one time president of the South Brant Conservative Association. He was one of the oldest officers in the Dufferin Rifles. He was for many years the representative of Trinity University in the Ontario Medical Council, and in 1895 was president of that body. He was highly esteemed by his large circle of warm friends.



# THE CANADIAN PRACTITIONER

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## Original Communications.

### SOME RECENT DEVELOPMENTS IN MEDICAL SCIENCE.\*

BY GEORGE A. PETERS, M.B., F.R.C.S. ENG.,

Associate Professor of Surgery, University of Toronto,  
TORONTO.

IN accepting the honor of delivering the address at this the opening of the tenth session of the University of Toronto Medical College, I am oppressed by the difficulty of choosing a subject which will be at once appropriate to the occasion, instructive to the students, and interesting to the many friends of the university who honor us with their presence on this and other public occasions.

Discarding in turn subjects dealing with aspects in the history of medicine, disquisitions on the relations of teacher and students, of practitioner and patients; panegyrics on the nobility and usefulness of our profession; and eulogies on the advantages which this university offers for the acquisition of a profession, all of which would be befitting the place and

\* Address delivered at the opening of the Tenth Session of the University of Toronto Medical College, September 30, 1896.

the occasion, I have resolved at length to bring before you one or two points dealing with the most recent developments in medicine, and indicating the lines along which the medical world looks for advancement being made. In considering these points, may I be allowed to assume that you are quite unacquainted with the subject? My sense of courtesy to our guests requires me to state that I know that they are very far from being ignorant of the broad general principles which underlie present day science, and my instinct of self-preservation prompts me to apologize to my friends the students for this monstrous assumption. But the assumption of this position makes it easy for me to give a brief sketch of the events which have slowly but surely led up to the problems which, among other things, are just now engaging the attention of scientific men.

Until the science of pathology was evolved from the study of microscopy, minute anatomy, and chemistry, nearly all practice was of that character known as empirical. That is, in the treatment of disease, reliance was placed solely on individual experience and observation. The aids of reasoning, analogy and generalization were ignored. It requires but little discernment to see that under these circumstances but little progress could be made. But when pathology began to reveal the causes and nature of disease, the remedies made use of were more rationally chosen with a view to their capacity either to remove the cause or combat the effects of the disease. Accumulated experience, based largely on such scientific grounds, constitutes the bulk of our present knowledge of therapeutics.

Accordingly, when it came to be known that certain minute vegetable organisms called "germs" stood in a causative relation to certain diseases, the energies of investigators were devoted to the problem: What therapeutic agents can we command (1) to prevent such germs from obtaining access to the system, and (2) to dislodge them and, at the same time, neutralize their poisonous effects after they have obtained a foothold in the human organism? The first of these problems was practically solved, as far as surgical cases are concerned, by the introduction of the antiseptic system, with which the name of Sir Joseph Lister is so honorably connected.

#### SERUM-THERAPY.

The solution of the second problem, viz., the pursuit of the germs and their poisons into the blood and tissues, is the object and ambition of that new departure in therapeutics called "serum-therapy," or the antitoxine method of treating disease.

Having permitted myself to assume, for the moment, your entire lack of knowledge of the matter in hand, I shall now outline the main features of this subject. If we place newly shed blood of any animal in a glass

beaker or bottle, we observe that in a few moments the whole mass becomes of a jelly-like or semi-solid consistence. That is, the blood has clotted, or undergone coagulation. By and by we observe that the clot seems to be squeezing out of itself some drops of yellowish or straw-colored fluid. The contraction continues until the clot appears to be surrounded by a layer of this fluid, which is called the "serum" of the blood, to distinguish it from the cellular elements, *i.e.*, the red and white blood corpuscles which are contained in the clot.

Again, it may not be known to all of you that the minute vegetable germs of which I have spoken are, with few exceptions, much less harmful in themselves than are the products to which they give rise during the activity of their lives. These products are to a large extent due to decomposition of the tissues in which the germs lodge, and are the "toxines" or virulent poisons which exert such a depressing effect upon the vital functions of those attacked by disease. Whether formed originally in the blood or in a local inflammatory or diseased area, such as the abscess, and thence absorbed into the circulation, these toxines are ultimately found to be held in solution in the serum of the blood. If produced in sufficient quantity, and not overcome or eliminated by nature's own powers of resistance, they must, of course, in the absence of treatment, produce death. That is the disease; let us now look at the means at hand for combating its baneful effects. From time immemorial the strongest ally the doctor has had is the *vis medicatrix naturæ*. But it is only now that we begin to have a glimmering of what this healing power of nature really is. We have very good reason to believe that immediately upon the absorption into the circulation of any of these toxines nature excites the cells and tissues of the body to produce some substance which will neutralize or counteract them. The substance so produced for this specific purpose is fitly called the "antitoxine," and it also has its residence in the blood serum. If the antitoxine can be produced with sufficient rapidity the toxines are overcome, and the antitoxine becomes the aggressor, attacking and finally routing and destroying the germs.

During the development of the antitoxines also the resisting powers of the cells and tissues seem to be increased, so that if a fresh crop of germs were implanted they would find the soil so hostile to their presence that the colony would soon die out. This is known as "immunity" to the disease.

Again, it has long been the custom of experimenters to grow the disease-producing germs artificially, outside the body, in such media as gelatine and beef tea. These "cultures," as they are called, are found after the germs have been growing for some time to be rich in toxines, and by subjecting the whole contents of the culture-vessel to a process of filtration



through porcelain under pressure, the toxins can be separated entirely from the germs which produced them. It is found now that if these toxins be injected into the body of an animal, that animal will manifest the same general symptoms as if it were actually suffering from the disease which the germ produces. If the dose be large enough death speedily results. If a smaller dose be given the animal sickens but rapidly recovers. A repetition of the same dose will be followed by less severe symptoms, and it is found that from day to day the dose may be rapidly increased, and that in the course of a few weeks or months the animal may receive with impunity a dose several hundred times as large as would have been a lethal dose in the first instance; and also that the injection of the living germs is followed by no ill results whatever. In short, the animal has been rendered "immune" to the disease. From what has been already said you will readily follow the course of events. Upon the injection of the first dose of toxine the cells of the animal injected bestir themselves to produce the antitoxine required. Additional antitoxine is formed after each injection, until in time the serum of the blood becomes saturated with it, and immunization is complete. If this process be carried on slowly and carefully the animal operated upon continues in robust health, and suffers no pain or discomfort except that caused by the prick of a fine hypodermic needle.

#### ANTITOXINE TREATMENT OF DIPHTHERIA.

Though perfectly satisfactory as regards the lower animals, it is manifest that this process is too cumbersome and protracted to be applicable to man. In 1890, however, Prof. Behring, of Berlin, found that the serum of a guinea-pig which had been artificially protected against diphtheria was able to confer a similar immunity upon another animal when injected into its veins. This was of course a most important discovery, and it is the foundation of the new treatment of diphtheria by antitoxine injections from which we hope so much.

For the purpose of producing the antitoxine for use in cases of diphtheria, the animal selected is man's noblest friend—the horse. The horse is selected because he is habitually free from disease, tractable under treatment, bears the injection of the diphtheria toxins without showing symptoms of discomfort or illness, and produces large quantities of antitoxine with the same cheerfulness and industry with which he renders so many other valuable services to man. The practice followed at the British Institute of Preventive Medicine is as follows: A healthy young horse is secured, placed in comfortable quarters, and well fed. A few drops—say, three or four (.25 c.c.) to start with—of a filtered culture of the diphtheria bacillus that has been growing a month in beef tea, are injected

under the skin. This first injection is followed by some local swelling and a slight rise of temperature. Next day, however, the animal seems as well as ever. After three or four days a similar dose is given, and is found, as a rule, to produce no symptoms whatever. A larger dose is then given, and if no symptoms arise the dose is progressively increased, until at the end of six weeks the animal receives 100 c.c. as a dose three times a week.

By this time the horse is, of course, perfectly immunized and his blood-serum is heavily charged with antitoxine. The next step is to bleed him, and this process is, in horses, fortunately a simple and practically painless operation. A glass tube or cannula is placed in a small slit made in the jugular vein, and while the horse contentedly munches a turnip or carrot, the surgeon contentedly draws off from six to fifteen quarts of his precious antitoxine-charged blood. It is found that a horse will bear the loss of this seemingly large quantity of blood without showing any signs of weakness or distress. The blood thus withdrawn is left on ice until the serum has quite separated, and when this has occurred the serum is poured off with aseptic precautions into sterilized bottles. A piece of burning camphor is dropped into it to destroy any germs that may possibly have fallen into it during manipulation; it is then corked with sterilized cork and so made ready for shipment.

One cannot too much admire the marvellous ingenuity of man in thus converting the horse into a living laboratory for the production of a precious vital principle which, so far as we know yet, can be produced in no other way. There is a sublimity in the idea of having thus encompassed the subjugation of nature's own healing balm to our own control, the counterpart of which, it seems to me, is rare in life's experience.

It is only some two years since this novel method of treatment was first brought before the profession by Professors Behring, of Berlin, and Roux, of Paris, so that it must be admitted that it is yet on its trial. Very extensive statistics of a reliable character are, however, already available, and these go to show that the mortality has been reduced by its use at least 50 per cent., which means in a disease so prevalent and deadly as diphtheria the saving of thousands of lives every year, besides the abolition of untold sorrow and suffering.

In regard to the immunizing powers of antitoxine I, shall quote a few figures which speak, it seems to me, with no uncertain voice :

Behring quotes 10,000 cases inoculated where diphtheria was raging. Only ten contracted the disease.

Of one hundred and thirty-six children inoculated in an infected hospital none took diphtheria, but a medical officer and a nurse who were not immunized contracted the disease.

Though by far the greatest degree of success has been in the treatment of diphtheria by this method, yet much work has been done, and an encouraging degree of success attained, in experiments in cholera, hydrophobia, tetanus, snake-bite, and tuberculosis. We all remember the bitter wail of disappointment and despair which swept over the whole civilized earth when the failure of Koch's tuberculin had to be proclaimed. Yet who can say that Koch's work was in vain? On the contrary, it gave such an impetus to research and enquiry in the direction in which he was working that the present discovery of antitoxine, if not a result, was at all events a sequence in the direct line of descent.

#### ANTI-STREPTOCOCCUS SERUM.

From a surgical point of view much interest attaches to the introduction of a serum for the cure of those severe forms of blood-poisoning so frequently met with in practice. Blood-poisoning, or septicæmia, is due to a germ known as the streptococcus. By a process similar to that used in the production of the antitoxine of diphtheria, an anti-streptococcus serum has been obtained which gives promise of being of great use in those acute and rapidly fatal cases which sometimes follow infection from a post-mortem wound or from a virulent surgical case. On the last day of February of the present year this university and this college were called upon to bear the loss of an esteemed professor, in the person of Dr. Laughlin Macfarlane, who died after one week's illness. This was an example of the most malignant type of septicæmia, due to the streptococcus, and following upon a trifling prick of a needle while amputating a gangrenous limb. The onset was sudden and characteristic, and its appalling seriousness was at once recognized by his *fidus Achates*, Dr. Adam Wright, whom he consulted. No need to say that not an hour—not a moment—was lost in instituting the line of treatment which gave the only promise of success. But words are feeble to describe the dreary hopelessness felt by those of us whose sad privilege it was to wait upon our friend in his last days. The pathology of the case was only too clear; but our therapeutic resources were at fault, and we could only fold our hands in bitter helplessness and watch him sink slowly to his end. Such is the intensely personal character of the allusion to this case that I must be allowed to digress for a moment from the main subject in hand. This is the first public meeting of the college faculty and students since the death of Prof. Macfarlane, and it is fitting that we should pause for a moment to think of our loss. Professor Macfarlane was a man singularly dear to the successive generations of students with whom he came in contact. This was evidenced not only by the cordial good-fellowship that always existed between him and his class, but also by the fact that after graduation his old students returned



him time and again for upwards of twenty years as their representative on the senate of this university.

Genial, kind-hearted, true, and honorable, he trod his daily path in simplicity and singleness of heart. He was respected and honored by his confreres, and beloved by old and young, rich and poor, among his patients. Industry and devotion to duty were prominent features in his character, he wore his harness to the last, and died honorably at his post. Of him it might be said, as of the noble Brutus,

“ His life was gentle ; and the elements  
So mixed in him that nature might stand up  
And say to all the world, ‘ This was a man ! ’ ”

This sad death took place in February of the present year. In the *British Medical Journal* of July I read of an almost identical case, which most happily ended in recovery under treatment by the anti-streptococcus serum. The feeling of satisfaction with which one reads of such a triumph is somewhat clouded by regret that the discovery was not made six months earlier ; but we rejoice in the progress which science is making, and we look forward hopefully to still greater achievements along the same lines.

Serum-therapy is yet in its early infancy, and it behoves us not to be carried beyond our depths on the crest of the wave of enthusiasm ; but there is strong reason to hope that this discovery may yet prove worthy to be ranked with those of vaccination, anæsthetics, and antiseptics.

#### ANIMAL EXTRACTS.

There is also another class of diseases not due even remotely, so far as we know, to the action of germs, to which a somewhat novel method of treatment is now being applied. I refer to the exhibition of what are known as “animal extracts” in certain forms of disease, which I shall mention presently. Much as we pride ourselves upon the advanced state of physiology, there are certain organs and tissues in the human body of the functions of which we are still entirely ignorant. It may, however, be taken as an axiom that each and every organ either has or has had some duty to perform in the economy of the human organization.

Strangely enough, where physiology fails us pathology sometimes rallies to our assistance, and we occasionally learn something of the functions of an organ by noting the character of the departure from health which accompanies its disease or removal. It has thus come to be an accepted view by physiologists that each of those enigmatical organs exerts an influence on the general well-being of the individual, either by adding something to, or abstracting something from, the blood which circulates in it.

If, then, through degeneration or failure of development of one of these

obscure organs, the system is deprived of the products of its metabolism or internal workings, a corresponding departure from health must follow. No medical education is required to see that a rational method of treatment of such a disease would be to supply by artificial means the peculiar substance which the organ would itself supply in its normal condition. This peculiar substance, in the parlance of therapeutics, is called an "animal extract."

An example will serve to make this plain. There is situated in the neck, just in front of the larynx, an organ called the thyroid gland. In a positive way we know little of its function. It forms no visible secretion, and is not provided with a duct; yet it is abundantly supplied with blood, and has every appearance to the eye of being an important organ. Moreover, it has been found that when it is removed for disease from an adult there follows a peculiar train of symptoms. The mental powers of the patient undergo great deterioration, so that in a few months the patient becomes quite imbecile; at the same time there is formed beneath the skin a thick layer of mucous material which entirely changes the physical aspect of the sufferer.

A failure of development of this organ in infants is also found to be followed by most distressing results. Though born of healthy parents, and perhaps with robust brothers and sisters, a babe in whom this gland is functionally inactive is mentally an idiot, and physically a dwarf, with scarcely more life than a vegetable, repulsive and bestial in appearance, habits, and instincts.

Experimenting upon monkeys and other animals, it was found that removal of this organ was followed by results precisely in conformity with what had been learned by clinical experience such as I have mentioned. Moreover, a most important point was further discovered, viz., that in a monkey suffering from the effects of removal of the gland all the symptoms might be made to disappear by transplanting the gland of another animal—say, the sheep—into the tissues of the monkey. Subsequently it was found that almost equally good results followed the feeding of the animal with either the glands or an extract made from them by means of maceration in glycerine or alcohol. You may be very sure that it was not long before the human race was given the benefit of the results of these experiments. The class of cases of which I have spoken, in which mental and physical deterioration were known to be due to the absence or disease of the thyroid gland, were early subjected to this treatment, and with most startling results. Dr. Byron Bramwell reports a case of a girl sixteen years old, twenty-nine and one-half inches high, who, under this treatment, in six months grew six and one-half inches (one-fifth of height before treatment). "The skin," he says, "lost its harshness and became soft and smooth, and

the facial expression changed from a striking similitude to a bull-dog to the appearance of human intelligence."

Dr. John Thompson reports a case of a lad aged eighteen years, thirty-three and one-half inches high, who in twelve months grew four and one-half inches, "whilst the change of facial expression was most marked, denoting an acquired activity both of mind and body in marvellous contrast to his original state." Many other equally notable cases might be quoted, but I trust sufficient has been said to show that there is a reasonable hope that further researches may reveal therapeutic agents of this character that will prove of inestimable value to the human race.

There are many little organs and so-called glands in connection with the brain—indeed there are vast areas of brain tissue proper—to which we are quite unable to attribute any function in the present state of our knowledge. Who can say that there may not yet be extracted from these tissues some substance which will dispel the clouds that hang over the intellect of those of our fellow-creatures who are afflicted with insanity? This may be far, very far, in the future; but such marvellous and amazing things have happened within the knowledge of all of us that he must needs have much assurance who would dare to place such and such limits, and say that beyond these human knowledge shall not pass.

#### X RAYS.

It is quite impossible for me to do more than allude to the fact that progress is also being made in physical science which, doubtless, will have a favorable bearing upon matters connected with our profession. Ghastly and gruesome shadow-photographs, anticipating Nature's process of reducing us to skeletons, have glared obtrusively from the pages of all the popular magazines. And even the staid and sober daily press has not been able to resist the demand which the intense interest of their patrons in this marvellous discovery made to be enlightened. Of its value to the physician and surgeon there is no question whatever, but from anything so strikingly sensational more is apt to be expected at first than the nature of the discovery warrants. And, consequently, some good people have taken it as a personal slight when it was explained to them that the X rays would not enable them to *see* a pain which they have felt under their waistcoats after a more than usually "comfortable" meal.

#### GENIUS OF MODERN PRACTICE.

But interesting and important as are these new discoveries, and great as is the honor and credit which accrues to the discoverer, most of us, in the course of our lives, will find that the bulk of our work will consist in putting into practice the knowledge gained by others.



The relief of pain and suffering and the cure of disease or injury are the sole objects sought by the patient in soliciting the services of a doctor. So that from the standpoint of the patient nothing could be simpler. But the genius of modern practice requires that, before he can prescribe a remedy, the physician or surgeon must be fully seized of all the facts which have a bearing upon the case. In other words, his first concern is to make a diagnosis.

For this purpose he brings to bear upon the case all his clinical experience and his pathological knowledge. But before he can understand pathology, or departure from health, it is obvious that he must be familiar with the phenomena of health, *i.e.*, physiology. This, in turn, presupposes an acquaintance with anatomy, biology, and chemistry. In the scope of knowledge thus brought to bear on a single case the student of medicine will recognize, practically, his whole curriculum of studies. The relative importance of these subjects it is difficult to fix. It has been the habit of those who fashion our curricula, as well as among students, to award premier importance to anatomy and physiology, but the earlier part of my address has shown, I hope, that the greatest advances in recent times have been due to the proficiency which has been attained in chemistry, physics, and biology, which includes, of course, bacteriology. The curriculum of the University of Toronto has, I am happy to say, been recently modified, so that the first year of study may be devoted largely to these subjects, and the facilities afforded by our magnificent chemical and biological laboratories are, I believe, not surpassed anywhere on this continent. While not presuming, then, to give a rating of the importance of these primary subjects, I have no hesitation in reminding you that in practice you will require, every day of your lives, all the knowledge of all these subjects that you can possibly acquire in the time at your disposal, and by what you lack of a perfect familiarity with them, by so much will you fall short of being a perfect practitioner of medicine at the bedside. Therefore diligence and industry must be your watchword throughout your whole course of study. I have often observed that one who has not completely mastered his elementary work as a student struggles on through his life's work under the impost of a heavy penalty. He may labor assiduously to overtake his disadvantage, and often he does do so to a large extent, but that he is always handicapped never ceases to be apparent, and to none more so than to himself.

It is principally for this reason that those interested in medical education have recently been making efforts to lengthen the time to be devoted to the acquisition of a medical profession. I can remember the time when it was possible to get through the course and obtain a license to practise in three years. In fact, a good schemer often managed it in

something less. Now, the Medical Council of this province has established a five years' course. But a "medical year," as understood by the council, really means only six months' study, or thirty months in all. In order to economize the time of the student, and save him the extra year which the Council seeks to add, this University, together with some other bodies, has sought to establish a four years' course, with sessions of eight months each. This will provide for thirty-two months of actual study. It is in my power to delight you by saying that it is not proposed to increase the number of lectures ; but I feel sure that every over-wrought student will appreciate the advantages of being able to work under conditions of less high pressure, of being able to digest and assimilate his mental pabulum with greater deliberation, of having more time for careful laboratory and clinical work, and—a most vital point—of being able to indulge more freely in healthful and manly outdoor sports, games, and recreations. In regard to the question of exercise, I am convinced that it would be an excellent thing if our students could have more regular and systematic exercise of a bracing character. The conventional "walk in the open air" may be all very well for young ladies' seminaries, but lusty young men in the full vigor of early manhood demand some more robust reaction from the physical inactivity incident to attendance on lectures. Of course, we all know that, with time for organization and practice, you could easily win the championships in Rugby and Association football, in baseball, lacrosse, and hockey ; but we would like to add to the pleasure of this knowledge the fuller satisfaction of witnessing the actual attainment of these laurels.

At the opening of each session it is usually considered appropriate and seemly to address a few words of fatherly exhortation to the freshmen. It seems to be always taken for granted that they must inevitably get themselves into trouble at first unless they receive in advance a few easy lessons in morality and deportment. In regard to morals, we, as a medical faculty, have for many years had abundant reason to be proud of our students. They have proved themselves to be, in all respects, worthy of our confidence and esteem, and we have no apprehensions in regard to the present first year class. In regard to deportment, we feel that that branch of study may be pretty safely left in the hands of the students of the senior years. It has always been the policy of the faculty, without relinquishing their authority, to hold that authority in abeyance, and to allow the students, in a large measure, to be their own disciplinarians. And I think that results have shown the wisdom of that policy. I believe that never since the re-establishment of the medical faculty of this University has an abuse of this confidence by the students called for an exercise of authority on the part of the faculty. Among our students such is the high regard for law and

order, such the respect which they entertain for the institution which fosters them, and, in short, so high is the standard of deportment which public opinion among them exacts from each individual, that life would be made intolerable for any turbulent or riotous spirit who dared to offend persistently against any of their unwritten, but none the less valid and stringent, laws.

Tradition says that long, long ago sedate and sober citizens used—unjustly, no doubt—to accuse our guileless students of singing and shouting on the streets at the very hour when they were surely at home burning the midnight oil. They have also been in times past charged with unhinging garden gates, dislocating signs, and other freakish pranks. My advice to any of my young friends in the freshman class who may, in a moment of weakness, be tempted to do any of these things is short and easy to be remembered—“Don’t.” You can never tell when you may glide gracefully into the clutches of some prowling policemen, where “cheek” availeth not. Moreover, our city fathers, with a sinful disregard of the wasteful misappropriation of public funds, have of late years had our “bobbies” taught athletics, so that many of them are pretty fair “sprinters” for a hundred yards or so. And, besides, you *shouldn’t* do these things. But let not the present first year’s men imagine that because I say these things we expect they may be sinners above all other freshmen. What I have said to you to-night was said in effect last year to the present second year, the year before to the present third year, and the year before that to the—yes, even to the present fourth year, whom we have learned to trust and esteem, to whom we look, and not in vain, to furnish examples to the younger generations of students of dignity, diligence, and good conduct,—even the fourth year men were once freshmen. They have industriously fought their way up, acquiring day by day more and more knowledge, until now even the faculty, humbly conscious of their own limitations and imperfections, cower and quail before the vastness and effulgence of their erudition. Yes, men of the first year, such is the case, and such as they are this day you may, by diligence, thoroughness, and application, hope to be in a few short years, and though my words may sound satirical, I repeat in all seriousness that I have a very high respect indeed for the proficiency of our young graduates. It is true they lack experience, but they have an excellent scientific groundwork upon which to build experience. They have been taught that experience does not consist in mere lapse of time—that the experience which consists in making a mistake to-day and repeating that mistake for the next fifteen years does not avail much to the advantage of one’s patients. They have learned how to observe, and how to draw conclusions from their observations, and these powers, combined with industrious study and constant



reading, will enable them, as the years go by, to increase in knowledge, in clinical acumen, and in proficiency as practitioners.

Young men, I congratulate you upon entering upon a noble profession. I congratulate you upon entering that profession when the curve of its progress as a science shows a startling ascent, and when great and important discoveries seem all but ready to burst upon us. I welcome you in the name of the faculty ; on behalf of the students I am sure I may say, " Welcome to our classes, welcome to our games and sports, welcome to our good fellowship and our fraternity."

## THE OPERATIVE TREATMENT OF MAMMARY CARCINOMA.\*

By W. BURT, M.D.,  
PARIS.

THE subject which you have done me the honor to request me to bring before you to-day is one that is now in a most intensely interesting stage.

It has evidently got beyond the hopeless one or one of palliation, and I am more than pleased that surgeons of to-day can supply us with a goodly percentage of cases cured, with a good prospect of increasing that percentage at no distant date. I shall not detain you by quoting statistics. You can read them, if you have not already read them, at your leisure in the valuable contributions of Doctors Bull and Meyer published in the *New York Medical Record* in 1894, of Doctor Halsted in the *Annals of Surgery*, 1894, of Mr. Watson Cheyne in the "Lettsomian Lectures," delivered recently, and others. I can add but little to these. My own statistics are not large, but such as they are they put me in entire sympathy with those who are looking forward to a better condition of things. Surely it ought to be good news to a patient with mammary carcinoma to say to her what Halsted says: "Now we can state, positively, that cancer of the breast is a curable disease, if operated upon properly and in time;" or quote Mr. Watson Cheyne's 57 per cent. of cures as obtained by using the three years' limit. And I might here say that I think it would be well if all surgeons were to adopt the four years' limit, as suggested by Dr. Wm. T. Bull.

It will be my purpose chiefly to-day to lay before this association how this high percentage of cures is brought about. It is so startling, as compared with our former achievements and aspirations, that I might say a new era has dawned upon us. But while I speak so hopefully of the outlook, it behooves us to go cautiously and examine well the ground on which we tread. It is well to have the critic at all times with us, and I have no doubt that he has already censured Dr. Halsted for not basing his statistics on the three years' limit; and while Dr. Meyer eulogizes the

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work of Dr. Halsted, he, too, has been impressed with the fact that a three or four years' limit is advisable in preparing our statistics ; for, in a kind letter received from him not long since, he told me that he had not written anything on the subject since his article in the *Medical Record*, already referred to, and that he did not wish to for three or four years to come, wishing to carefully study his cases. But Dr. Cheyne utters no uncertain sound. He bases his statistics on the three years' limit. I think no one will dispute that the good results obtained by Halsted, Meyer, Cheyne, and others have been obtained by doing the complete or wide operation. Now, the "complete operation" of to day may have quite a wide range. Dr. Bull calls the operation "complete" when the breast and the axillary glands, with fat and fascia, are removed in one piece. Dr. Meyer does not think the operation complete unless, in addition, both pectoral muscles are removed from their origin to their termination, with removal of the supraclavicular glands in a number of cases. Others, again, do not think it complete unless the periosteum, to which these muscles are attached, is also removed. Dr. A. Lane further advises the cutting through of the clavicle for the better removal of the glands. So that the word complete, as applied to operations for cancer of the breast, is not a fixed term, and might well be discarded. I will use the word "wide" instead of "complete" in my paper. But while the wide operation is reducing our death-rate, there is no doubt that it will be further reduced if the majority, or all, of our cases are submitted to an early operation, that is, before there is any, or very slight, infection. And here I would just make a few remarks about an early diagnosis ; for, after all, it is the most-important thing. If the people are once taught that a large percentage of cases of cancer of the breast are curable by an early and wide operation, I feel there is no doubt but that few women will refuse to be operated on, especially when the death-rate, even in the wide operation, is practically *nil*. None at all in Halsted's fifty cases, and only one in Cheyne's sixty-one cases. Now, I ask, how is an early diagnosis to be made ? Let those who censure the general practitioner for referring his cases too late help me to answer it. One can be wise when the case is beyond a doubt to the sight, or to the touch ; but, in the early stages, many cases are not beyond a doubt unless a pathological examination be resorted to. And I feel that every case upon which we propose to do a wide operation should first be positively diagnosed to be malignant.

We are told that ten per cent. of mammary tumors in elderly women are not cancerous, and I feel that not one of these cases should be looked upon as doubtful, and for that reason operated on as cancerous. I do not think we have as yet proved at all satisfactorily that a benign growth



in an elderly woman will necessarily eventuate in cancer. It is a very easy rule to commit to memory, "after the age of thirty-two or thirty-five remove everything." But is it surgical? Is it logical? I think we are going too far when we say "if it is not cancerous it will become so." It is a salve to our minds and to our patients'. But many a practitioner, I have no doubt, speaks conscientiously this rule to his patients. I feel that under no circumstances should a benign growth be submitted to the wide operation. I cannot agree with Dr. Bull that "exactness in diagnosis should play a secondary rôle." It is a reflection on our precision in a matter of diagnosis when it can be attained. I think it should not be left undecided before we operate. I hold that we cannot censure too much a laxity of diagnosis. No woman will care to undergo unnecessarily a mutilation which, in a measure, unsexes her, and I feel that the operation furore in breast amputations needs as healthy an opposition as it does in the perhaps too general castration of women. No doubt the danger of its happening here is not so great. I think already there must be very few cases on record, if any, where the wide operation has been performed for a non-malignant growth; for as yet this operation is confined to a few. But I have no doubt, from the teaching of the past and the present day, that many a breast has been sacrificed, and women, in a measure, unsexed, when a simple operation would have sufficed. Now, it is against our ideas in operating in mammary cancer to cut into the cancerous mass. All, I think, are pretty well agreed now that the infected region should be removed in one piece for fear of infecting the wound, and that on no account must the diseased tissues be cut into, but surrounded, and to-day I present you two specimens to represent this removal *en masse*, one from a patient of Dr. Taylor, of Princeton, operated on April 20th, last, the other from a patient of Dr. Addison, of St. George, operated on five days later. The former represents the removal of the breast and axillary glands as ordinarily performed—the complete operation of Dr. Bull and others; the other the plan advocated by Dr. Meyer, of New York. These operations and others I will refer to later on. I think it would be well, when we suspect simply an inflammatory hyperplasia or the fibroma of adolescence, or in some tumors due to dilatation of the ducts, to try first the application of the iodide of lead and mercury ointment four times a day for a few weeks, as Dr. Herbert Snow has advised us will disperse them. A cystic tumor can be made evident with the hypodermic needle, but for a solid tumor an exploratory incision and the freezing microtome, or the use of Mixter's punch, will, no doubt, settle the matter; and this may be carried out so that there will be very little or no danger of infecting the wound. If it prove to be a benign tumor, we will remove it by a simple operation; if malignant, by one of the wide operations. But to make a diagnosis in this

way the surgeon will need be an experienced pathologist. Well, it may have to come to this, for it will be impossible to have an experienced pathologist with us always when we operate in the country. There are too many patients who can ill afford any such expenditure. I have felt that we should have a State-paid pathologist as we have State-paid analysts in connection with our boards of health. I do not think it advisable to send patients at all times to a hospital. Our hospital surgeons tell us that their operations in private practice have a better percentage. Hospitals contain unavoidably many septic cases. I would prefer even to operate on a carcinoma in the ulceration stage at the patient's home if the appointments would admit of it. Without doubt, most of our hospitals have an experienced pathologist, who assumes the responsibility of pronouncing a growth mild or malignant. But the pathologist is not necessarily an infallible man, I am sorry to say. While I have no doubt that, as a rule, he may be correct in his reports on mammary carcinoma, still it seems that in cancer of the cervix uteri the pathologist often cannot speak positively at a time when the surgeon feels positive that he has a carcinoma to deal with. Still, the report of an experienced pathologist is the most reliable method of dealing with the diagnosis of mammary growth in the early stages, and in following out this plan we need have no reproach. Here I might just refer to the local origin of cancer, as it has much to do with the percentage of results from a wide operation. The fact that our best surgeons are now doing a wide operation, not only on their own responsibility, but without a protest from the pathologist, in pathological centres such as Johns Hopkins and the New York hospitals, is a sufficient guarantee that pathologists have nothing specially to offer against the aims and pretensions of those who look upon cancer as a local disease to a very great extent. I say in the very centre of pathological research the wide operation is being done, *e.g.*, at Johns Hopkins, Baltimore, by Dr. Halsted, whose co-workers are Professors Osler and Welch. As regards the origin of secondary growths as a local recurrence, I do not think that the mutilation of the knife—that the wound itself is a primary source of them.

Now, as to the operation for the relief of mammary carcinoma, I will first call your attention to what has been known as the complete operation, until Halsted and Meyer taught us that this is insufficient in many cases. I have already referred to the complete operation as the removal of the breast and axillary glands in one piece; and just here I might call your attention to the retrogressive teaching of Dr. Treves, in his operative work, to which many of us have looked for inspiration. Without detaining you too long, I might just say that he has discontinued the practice of cleaning out the axilla where glandular swellings cannot be discovered in that place. Surely, if we were to go and do likewise the light of our



hopes would be extinguished ; but, instead of stopping at the axilla, we go nearly as far as anatomy will allow us. I will not detain you with the details of the ordinary operation—you are all as familiar as I am with them ; and for the details of the wide operations of Halsted and Meyer I will refer you to their respective articles in the *Annals of Surgery* and *Medical Record*, which I now hand you, Mr. President. Those who have not done so may examine them at their leisure. As to the Halsted operation, there may be some points that surgeons may not be able to follow without witnessing the doctor operate. As to Meyer's operation, I think no one will have any difficulty whatever in following him, although it is a still wider operation. The technics of the operations are so fully explained in the articles referred to that I do not feel like taking up your time now with them, except to refer to a couple of incidents which happened in cases that I assisted. In the case of Dr. Addison, referred to, the enlarged glands were so adherent to the axillary vein that in cleaning it off a small branch was torn off at its junction with the vein. A small silk ligature around the hole was sufficient. In a case of Dr. Taylor, of Princeton, the whole of the axillary vein for a distance of two inches at least was involved in the mass. This was removed, and the vein tied above and below. Here the collateral circulation had already become established, and there was no subsequent oedema. There is too great a difference, however, in the modes of operating by surgeons. One will tell us that the axilla can be thoroughly evacuated without any section of the pectorals, simply using the retractor. Others again, while not removing the pectoral muscles, will cut the great pectoral across and sew it up, as Mr. Watson Cheyne has expressed himself in the Lettsomian lectures, delivered recently. My experience is that it is a very difficult matter to clean out the axilla without removing the pectorals or laying open the anterior wall, whether the glands are enlarged or not. I think those who say they can are not sure of their ground, and I do not feel the same confidence that the work is as thoroughly done as when the pectorals are removed or the anterior wall laid open. I think, too, many will prefer a clean dissection with a sharp knife to the use of a periosteum detacher, which Prof. Cheyne recommends for the removal of the glands. Haidenhain has recommended that the periosteum to which the pectorals are attached be removed. Prof. Cheyne has suggested, in cases of involvement of the nerves by masses in the axilla, amputation at the shoulder ; but this he no longer approves of. Dr. A. Lane proposes the removal of the supraclavicular glands, by cutting through the clavicle in every case ; but in this, I think, he is almost alone. Farther than Meyer goes it will scarcely be possible. The procedure of extending the incision upwards of Halsted and Meyer on to the neck, as advised by the latter, is all that



many of us will have courage to follow, and in doing this I feel that we need not censure ourselves for having done too little. And here I might say that the thermo-cautery should be used in ulcerative cases for the prevention of infection, as done by Dr. McBurney. Dr. McBurney, one of New York's well-known surgeons, is following Meyer's operation in preference to Halsted's. You cannot help seeing that the wide operation has become of great magnitude, and in interest vies with, if not transcends, an appendicitis or a hysterectomy. It is no doubt to the success of the latter, in cancer of the womb, that the general surgeon has been stimulated to do an early and wide operation in cancer of the breast. Now, a few words as to the time taken in performing the wide operation.

Meyer tells us that his operation adds about twenty minutes to the ordinary complete operation, and I think that those accustomed to do the ordinary complete operation, with good assistance, will do Meyer's operation in the time stated. But Halsted's technique is somewhat different. To say that he often consumes from three to five hours in many of his cases is not exaggerating. He does what is known as a dry operation, applying, I understand, upwards of one hundred and fifty ligatures in some cases, and closing the wound without any drainage. This may sound to you like a legend of the Amazons, but, nevertheless, Dr. Halsted has every faith in his method—believes that shock is caused by loss of blood, of which he sheds but little; and the fact is, as I have said, that not one of his fifty cases succumbed to the operation, although the pulse of several was very feeble before commencement. The functional disability, from the wide operation of Halsted and Meyer, is less than one might suspect. By means of the anterior fibres of the deltoid a woman is able to dress her back hair. Where we have no suppuration, as a rule, but primary union, even in these extensive operations the small amount of rigidity or stiffness can be accounted for. When the diagnosis is made in the early stages, with very little or no infection of the axilla, and where there is no suspicion of involvement of the muscles, the operation of removing the axillary glands with the breast, as commonly performed, I think sufficient; but when the extension is further, possible infection of the axillary glands and possible involvement of the pectorals, one of the wide operations should be resorted to. This is a matter, however, which I think should be left to the judgment of the surgeon at the time; but I do not believe that the wide operation, that of Meyer or Halsted, should be resorted to in every case.

And here I will leave the subject, fearing that I have already trespassed on your time at too great length. It will no doubt take the next two decades at least to settle the question of percentages by the wide operations. By that time we should have statistics sufficiently reliable by which this subject may be adjudicated upon.

## Selected Articles.

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### SYPHILITIC RE-INFECTION.

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By H. FITZGIBBON, M.R.C.P., F.R.C.S.I.,

Past President Royal College of Surgeons, Ireland; formerly Surgeon and Lecturer on Clinical Surgery, City of Dublin Hospital; Senior Surgeon, Government Lock Hospital.

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IN 1888 I publicly stated in the conclusion of an address upon syphilis, which I delivered as President of the Royal College of Surgeons of Ireland, at the opening meeting of the surgical section of the Royal Academy of Medicine—"That we know that syphilis, like other eruptive fevers, can be cured, and wholly eliminated from the system. The proof of this is the fact that it is now no longer impossible for the disease to be contracted a second time by the same individual."

I made this statement with the fullest conviction that syphilis, if uncomplicated and judiciously treated, is capable of being as thoroughly eliminated from the system as variola, scarlatina, measles, or any other eruptive zymotic disease, and that, like these diseases, although one attack affords a certain immunity from a second, yet a sufficient number of undoubted instances of reinfection of syphilis in the same individual had been reported to afford conclusive evidence that under certain circumstances the disease not only becomes entirely eliminated, but that even the protective effect of the first attack dies out.

The law which Ricord proclaimed in 1831, "*la unicite de la syphilis*," was accepted almost universally as unimpeachable, on the faith of his then justly pre-eminent reputation as the greatest living authority upon the subject. It may reasonably be doubted whether Ricord ever intended to assert the absolute impossibility of reinfection, for as early as 1845 he expressed the belief that exceptions to the law of the unicity of syphilis might be found, and he hoped that it might be so, as he believed it would be proof that the effect of syphilis was not necessarily life-long; subsequently he met two cases which he regarded as conclusive. In 1863, in an article "*de la reinfection syphilitique*," published in *Archiv. gen. de Med.*, Diday reported over twenty cases which he believed to be instances

of second infection. At this epoch there was a widespread belief among men whose experience best qualified them to express an opinion on the subject, that one attack of true syphilis did not give immunity to the individual from a repetition of the disease. For example, of thirty-three witnesses who were examined before a special committee appointed by the Secretary of State for War in 1867, to make a report upon venereal diseases as affecting the British navy and army, twenty-three were of opinion that one attack afforded no immunity from a second, while only sixteen adhered to the doctrine known as Ricord's law. In the edition of "The Pathology and Treatment of Venereal Diseases" published in New York by J. Freeman Bumstead, in 1883, the author says: "Before we can admit a second attack of syphilis we must have an undisputed history of the first infection; we must have proof beyond doubt of a second chancre, which is followed by well marked enlargement of the inguinal ganglia, and later on by secondary manifestations of an undoubted syphilitic nature. Without this succession of lesions we cannot admit the claims of any case of syphilitic reinfection." Bumstead, having thus defined the evidence upon which a case may be admitted to be one of reinfection, adds: "I have seen and treated three well-marked cases of reinfection with syphilis." It was not only upon the faith of such unquestionable evidence as I have quoted that I declared myself convinced in 1888 that syphilis can be wholly eliminated out of the system, and that the possibility of re-infection is a proof that such is the case. I happened to have under my own observation at the time a case which, even if no other case had ever been recorded, and if all the world denied the possibility of a second syphilitic infection, would have alone justified my conclusion, on the principle that "seeing is believing." As I never yet published this case, I will give it here in detail:

J. W., æt. 21, an officer in the post-office service, with a previous history of exceptionally good health, presented himself to me in March, 1880, having a typical solitary indurated chancre close to the frænum, beneath which a perforating process of ulceration had commenced. I divided the undermined frænum, and applied a saturated solution of nitrate of copper to the sore, which was then dressed with black wash. At this time there was no manifestation of constitutional syphilis except the local induration. The patient was fairly definite as to the time he contracted the disease, being about four weeks previous to my seeing him. One week later multiple adenitis of the inguinal glands appeared, and the nuchal glands became perceptibly enlarged; the submastoid gland lying in the space between the anterior margin of the trapezius and the posterior margin of the sterno-mastoid muscle was well marked. This particular lymphatic I have observed to be almost constant in cases of recent syph-



ilitic infection ; the enlargement of it is not symmetrical, being frequently unilateral, and when bilateral is always more conspicuous on one side than the other. The appearance of this multiple adenitis in the inguinal and nuchal glands is characteristic of recent syphilitic infection, and the common prodrome of the first skin eruption, as was the case with this patient, who developed a profuse roseolar syphilitic eruption about a week after the development of the adenitis. He was treated by inunctions and baths, and remained under my care and observation during the whole course of the disease. He had no unusual complication, although he had recurrent manifestations of syphilis in various forms during the first year. He made a good recovery, and in October, 1881, just one year and ten months from the time he contracted the disease, I advised him to discontinue all treatment, as I believed him to be perfectly cured.

His health continued good until October, 1886, when he again presented himself for advice, having contracted a sore underneath the foreskin. It had all the appearance of a large Hunterian chancre lying in the sulcus, and involving both a portion of the glands and foreskin. There was some difficulty, owing to the presence of slight inflammatory phimosis, in exposing it, but when brought into view it was found indurated and commencing to break down in the centre, where a gangrenous slough was forming.

The inguinal glands, which had been quite free for four years, were again enlarged and matted together ; there was a considerable number of nuchal glands enlarged, and the submastoid gland on the right side was fully as large as a bean. At no time during his previous attack were the lymphatics as extensively engaged as they were at this time. I applied strong nitric acid to the sore, and directed him to dress it with black wash on lint.

He was quite candid and fairly definite in his statement as to when he was exposed to contagion, and in this instance he believed it was in the last week in July, or about eleven weeks previous to my seeing him. He felt no discomfort after the application of the nitric acid, but the inflammatory phimosis increased the next day, so that he was unable to draw back the foreskin in order to dress the sore ; he postponed coming to me until the second day after the cauterization, when I found it necessary to split up the prepuce. Having done so, I found that the chancre had become phagedænic, and had already destroyed a considerable portion of the glans penis. The inguinal glands softened and broke down rapidly, assumed a burrowing phagedænic character, which was only checked by the application of nitric acid and the internal administration of opium and quinine, while mercurial inunctions were resorted to. He developed no skin eruption until the first week in November, when a well-marked dis-

crete pustular eruption of an indolent character appeared upon his face, head, body, and thighs, the arms and legs, from the knees down, having no spots. This patient made a tedious recovery ; he developed periostitis, syphilitic lepra, chronic sore throat, gumma, and various other obstinate syphilitic affections, which extended over a period of four years. He ultimately made a good recovery, and is now well, having had no relapse or reappearance of any syphilitic phenomena since 1893.

I have endeavored to supplement this case by obtaining notes of other unpublished ones, if possible, from members of the profession holding positions which afford exceptionally wide fields of observation. The result of my inquiries has been, for the most part, negative. Mr. Armand Bernard, Surgeon to the Liverpool Lock Hospital, writes : " I have had very few cases of reinfection of syphilis ; I have no recollection of attending a patient twice after a long interval in whom a reinfection occurred." He, however, cites one case of a patient who had syphilis in 1876, who came to him in May, 1890, after a long interval of perfect health, with " a large indurated sore upon the inner prepuce, glands in right groin slightly enlarged (doubtful). July 1st the sore was healed, suspicious eruption on forehead, excruciating pain in brow. July 12th, eruption on forehead papular ; no doubt of its specific character now." It is unnecessary to go further into the details of this case beyond recording the fact that it proved a protracted and severe one, with complications, such as ulceration of the hard palate ; but ultimately it made a complete recovery. Mr. Frederick Lowndes, Senior Surgeon to the Lock Hospital in Liverpool, and Medical Officer of the Liverpool police, kindly furnished me with notes of some cases which occurred in his practice, which were probably instances of reinfection, but in which the positive evidence was wanting. In his very wide experience he had not seen a case where reinfection had taken place after recovery from complete syphilis. Mr. Edward Hamilton, Senior Surgeon to Steevens Hospital, in Dublin, where there is a special syphilitic ward, in reply to my request to let me have notes on any cases of re-infection which had come under his observation, writes : " I do not think that I have seen any cases in which re-infection of syphilis has been established by proper proofs. I think we at Steevens have an abundant field for observation ; we have the care of the constabulary, conducted under military regulation ; the men are under our constant supervision during their entire service. We must have very decided evidence of the two attacks before we can admit their occurrence. I do not say it is impossible, judging from the natural history of bacillus and the statements of military surgeons." Sir Thornley Stoker, ex President R.C.S.I., has kindly furnished me with particulars of two cases which he regards as instances of second infection of syphilis : Case 1.

H. J., æt. 30, had been treated in 1880 and 1881, by Ricord, for secondary syphilis, by mercury, and believed he was cured. Consulted Sir Thornley Stoker in 1888 for typical hard chancre, which came on fourteen days after connection; it refused to heal until mercury was persistently given. No secondaries followed. Case 2. R. B., æt. 40, in 1882 had a primary, solitary hard sore, followed by secondary eruption and iritis, took mercury interjectionally for some years, and was treated at Aix-la-Chapelle for five weeks in 1888. On October 10th, 1895, he had a solitary sore, with some doubtful induration, which had existed for two weeks, and had appeared a week after connection. The inguinal glands were enlarged and hard. As the sore was, in Sir Thornley's opinion, evidently an indurated chancre, he put the patient upon a mild course of mercury, by the mouth. October 31st, induration marked, mercury increased. November 26th, no improvement; iodide of potassium added to mercurial treatment. December 4th, induration disappearing, the sore was healed by January 24th, 1896, and no mercury has since been taken. R. W. Taylor, of New York, in his very exhaustive work on venereal diseases (which is an enlarged and revised edition of Bumstead's work, to which I have before referred), states that of about 160 published cases of supposed re-infection of syphilis, it is safe to say that not thirty of the whole number are really authentic. He refers to the rigid analysis of these cases made by Hudalo, "De l'immunité Syphilitique," *Annales de Derm. et de Syph.*, 1891; as a result of this analysis Hudalo rejected all published cases as uncertain, except those reported by Delastre, Gascoyne, Caspary, R. W. Taylor, and Hutchinson. Another comparatively recent case, which appears to be a genuine one, was published by an observer named Budugoff Budugian. A man, æt. 41, got a chancre in November, 1893, which was followed by roseola. This patient had hard chancre in 1868, followed by sore throat and roseola. He continued under treatment until 1887, from which time he continued well until his present trouble. *Vratch*, No. 13, 1894, *Provincial Medical Journal*, June 1st, 1894.

Since this analysis was made Mr. Hutchinson has published in the *Archives of Surgery* no less than fifty-four cases of second infection of syphilis which he met with in his own practice; of these thirty-two are based upon evidence which appears to be beyond dispute, but of the whole series there is hardly one in which any reasonable doubt can be entertained. With such a record as this, upon the authority of such a careful observer as Mr. Jonathan Hutchinson, it appears unnecessary to seek further evidence as to the possibility of syphilitic re-infection.

Bearing upon the question of the possibility of a second syphilitic infection, and of the importance which may be attached to the establishment of the fact, there are points of interest yet unsettled. In the first



place, is syphilis to be classed among the exanthemata as an infectious eruptive fever, such as small-pox, scarlatina, or measles? It has so many attributes in common with the recognized zymotic fevers, that in my opinion, it may be properly included in the same class. It is produced by the transmission of a specific infection from one individual to another. There is a fairly definite period of first incubation between the inoculation with the virus and the local manifestation of its presence by characteristic appearances at the point of inoculation. Then supervene headache, general malaise, pains, characteristic adenopathies, accompanied by an abnormally high temperature ranging from  $100^{\circ}$  to  $101.5^{\circ}$  F., generally followed by a characteristic eruption, upon the appearance of which the temperature falls, and the constitutional disturbance abates. To these characters, in common with the recognized exanthemata, may be added the fact that one attack is followed by a period of greater or less duration in which the same individual is insusceptible of re-infection.

It may almost be assumed that this disease, which has so many characters in common with other zymotic fevers, has also a distinctive bacillus of its own; but if this is the case it has yet to be demonstrated. Lustgarten believed he had succeeded in doing so, but as his method was unsuccessful in the hands of such expert microscopists as Sabourand and Currier, it must still remain a subject for further research. The syphilitic virus contrasts remarkably in some of its properties with the infectious principle of most other infectious fevers. It is capable of lying, as it were, dormant, in some instances, for almost an indefinite length of time after its introduction into the system; sometimes there is a local induration at the seat of the inoculation, which is the only indication of the disease; in other cases even this disappears, with or without treatment, and there is no evidence that the person has contracted syphilis until something occurs to produce a constitutional disturbance, by which the dormant syphilitic virus is, as it were, stirred into activity. This property of syphilis is well illustrated by the frequent effect of vaccination upon the children of syphilitic parents, who are often born free from any evidence of the disease and remain so until they are vaccinated, shortly after which not only does the seat of the vaccination pustule assume a syphilitic character, but general syphilitic phenomena are developed. I saw a remarkable example of this property of syphilis when I was a student, in 1864. A fellow-student of mine got a sharp attack of simple fever. On the fourth day of the fever he developed a macular eruption over his back and trunk; on its appearance the case was pronounced by the late Dr. William Stokes, one of the highest authorities upon fever that has ever lived, to be one of maculated typhus. Upon the ninth day there was a crisis by sweating, and the fever left him, but the maculae remained. Dr. Stokes promptly recognized that

the fever had only been an attack of simple synocha, and that the eruption was syphilitic. It then transpired that the young man had a venereal sore a considerable time previously which had disappeared without any but local treatment, and he had not suspected that he had contracted syphilis from it.

A somewhat similar case came under my observation recently : A gentleman consulted me about a small hard chancre on the body of the penis. It was the fourth week after contagion, and there being slight infiltration of the inguinal and nuchal glands, I put him promptly upon a mercurial treatment, under which the local induration rapidly disappeared. For four months he developed no syphilitic phenomenon whatever, and I regarded it as an instance in which what has been termed by Mr. Hutchinson as "suppression treatment" was likely to be successful ; suddenly he developed a sore throat, which was accompanied by high fever, temperature,  $105^{\circ}$ , headache, and sick stomach, and a tongue white and thickly coated, more like the tongue in small pox than anything else. On the second day a macular, subcuticular mottling was visible all over his body, together with a general redness of the skin, which increased until the redness became so intense as to mask the macular eruption altogether. I had never seen such a complication before, but it was obvious the gentleman had a bad attack of scarlatina, which had stirred into activity the syphilis which previously was quiescent. With the exception of baths, all treatment for syphilis had to be suspended until after the period of desquamation was over, the syphilitic maculæ remaining distinct, and also a redevelopment of inguinal and nuchal adenitis occurring. The resumption of mercurial inunctions and vapor baths was followed by a rapid disappearance of the eruption, and the patient was soon free from any apparent evidence of syphilis.

I met recently another notable instance of dormant syphilis in the case of a medical man. He had contracted an undefined local sore fifteen years ago, which was followed by a sore throat. Both the sore and the throat got well without any treatment except the application of iodoform to the one and an astringent gargle to the other. He developed no secondaries, and married two years after the contagion. His first child was born about two years after his marriage ; a few weeks after its birth it got snuffles, and threw out an unmistakable syphilitic eruption, for which it was treated with mercury, and made a complete recovery, being now twelve years old, and healthy. His wife has since had two premature confinements, and one healthy child. She never developed any symptoms of syphilis, nor has her husband since two years previous to his marriage.

Another point upon which I have no doubt is that the character of a primary chancre and its subsequent constitutional sequelæ are greatly influ-

enced by the condition and stage in which the infecting sore or lesion is in at the time that the infection is transmitted from it. Syphilitic infection transmitted by the blood, the secretion of a mucous patch by a chancre in its early stage, or any other syphilitic lesion where the virus is purely syphilitic and unmixed with inflammatory products, such as pus, dirt, or septic matter, as in the case of chancres in an advanced stage where the induration has commenced to break down and become gangrenous, will give rise to a mild, uncomplicated type of the disease, as compared with that which will result from what may be termed inoculation with impure or septic syphilitic virus. This explains how one individual may contract a mild, uncomplicated disease from the same source from which another person in a short time afterwards may get a most virulent disease, with all the characters of blood-poisoning superadded to syphilis. The case is quite analogous to that of vaccination from a vaccine pustule after the lymph has become semi-purulent and contaminated with inflammatory products, the result of which is to produce sometimes obstinate pustular eruptions, affections of the lymphatics, and other troublesome and persistent sequelæ. Not only does it appear that the type of individual cases depends upon the purity or impurity of the inoculated virus, but it seems more than probable that the epidemic constitution of the disease at different periods has been determined in this manner. For example, the most virulent outbreak of syphilis on record was that of 1495, when, during a European war, through the overcrowding of camps, neglect, and want of cleanliness and medical attendance, the disease assumed an epidemic constitution of unparalleled severity.

I have been for seventeen years surgeon to the Government Lock Hospital for Women in Dublin, during which period I have had about 9,000 cases of venereal disease under my observation; about half of these were syphilitic, and many of them re-admitted after long periods of freedom from symptoms; yet having regard to the fact that the hospital is conducted upon the voluntary system, and that the patients seldom remain under treatment until they can be regarded as cured, I have discarded all these cases as open to doubt as to their being, any of them, instances of re-infection.

#### *Conclusions.*

(1) Syphilis is a specific fever of the same class as the other major exanthemata.

(2) That if uncomplicated by pre-existing constitutional cachexia, or co-existing septic influence, it runs a definite course, by which it exhausts in the system of its recipient the elements upon which its virus can feed. Thus, like variola, vaccinia, etc., the first attack is followed by a period during which the same individual is insusceptible of re-infection.



(3) That the effects of syphilitic infection are no more necessarily life-long than the effect of any other zymotic eruptive fever, but that the process by which it is eliminated is more tedious, and is liable to interruptions and complications which are not common to it with the other exanthemata. There is abundance of evidence that by far the majority of persons who contract syphilis recover completely from it, and there is also indisputable proof that, after the lapse of a period of over five years, not only has the disease disappeared from the system, but that even the protective influence of it may die out, and the elements which it had exhausted be re-established.

(4) Too much importance has been attached to the question of the possibility of second infection with syphilis as the only reliable proof of complete recovery from the disease. The experience of all those who have much knowledge of the treatment of the disease in the present day is that, with few exceptions, complete recovery takes place within three years from the date of infection, and that the subject develops no subsequent evidence of the disease, either in his own person or by transmission to his offspring. It may happen, as it does in small-pox or vaccinia, that the protective influence remains, but this is no evidence that there is any syphilitic taint left. It would be equally rational to assert that a person was still suffering from small-pox, vaccina, scarlatina, or typhus fever, because he was still under the protective effect of an attack of one of these exanthems and insusceptible of re-infection.

(5) From reported cases it would appear that when second infection with syphilis takes place, the disease is more likely to be of an aggravated type than in first attacks. From this I should conclude that the re-infection is more apt to be communicated by contact with the impure or septic source of infection than from pure or less virulent syphilitic virus. In illustration of this I may refer to the case I have myself reported and also to those reported by R. W. Taylor, of New York, two of which he states "ended quite promptly in death." Such a consequence is more suggestive of acute sepsis than re-infection with purely syphilitic virus.—*Medical Press.*

## TREATMENT OF MALIGNANT TUMORS WITH THE TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS.

BY WM. B. COLEY, M.D.,

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and Crippled.

THE cases reported extend over a period of upwards of four years, and they embrace nearly every variety of sarcoma and carcinoma. In practically all the cases the diagnosis was confirmed by microscopic examination made by the most competent pathologists. In addition, the majority of the tumors had been pronounced inoperable by leading surgeons, and in many cases still further evidence of malignancy was furnished by a history of repeated recurrence after operation.

It would seem possible from this large series of cases to arrive at some scientific opinion as to the value or worthlessness of the toxins in malignant tumors. The fact was emphasized that this method of treatment had been advocated only in inoperable cases which were entirely hopeless, not only from a surgical standpoint, but also as regards any other hitherto known method of treatment. The author expressed the desirability of having these results subjected to the severest criticism. If they were able to stand this they would be of the greatest importance, not only as bearing upon the future treatment of malignant tumors, but also as throwing some light upon the unsolved problems of the etiology and pathology of such tumors.

An attempt was made to show that the method of treatment rested upon a rational basis, namely, the considerable number of cases of undoubtedly malignant tumors that had been permanently cured by attacks of accidental erysipelas. The writer's own observations covered the whole field from the accidental erysipelas to the mixed toxins. He was led to take up this line of investigation from having observed a small, round-celled sarcoma of the neck, five times recurrent, and given up as hopeless, cured by an attack of accidental erysipelas, patient having been found alive and well seven years afterward. His first series of ten cases were treated with repeated injections of living bouillon cultures, with the view

\*Abstract of a paper read at a meeting of the Johns Hopkins Medical Society, April 6, 1896.

of producing erysipelas. The unmistakable improvement that followed the repeated injections, even when no erysipelas was produced, especially in sarcoma, suggested that a portion, if not all, of the beneficial influence was due to the toxins instead of the living germ, and this led to experiments with the toxins alone.

The first experiments were conducted with bouillon cultures that had been subjected to 100° C., and were used without filtration. The reactions following the injections of this solution were similar in character to those obtained from injections of the living germ, although less severe. In order to increase the virulence of the cultures, the writer made use of the fact demonstrated by Roger, that the bacillus prodigiosus, a non-pathogenic organism, had the power of intensifying the virulence of the streptococcus of erysipelas. The toxic products of the two germs were prepared separately and mixed at the time of using.

This mixture produced a much more severe reaction than when the erysipelas was used alone, and the beneficial influence upon the tumor was likewise more marked. Later on, at the suggestion of Mr. B. H. Buxton, the two germs were grown together in the same bouillon, the erysipelas being grown alone for ten days and the bacillus prodigiosus added, and the two allowed to grow together for another week or ten days, at the end of which time they were passed through a Kitasato filter. This appeared to be a still greater improvement in technique.

A still further change was made with a view of utilizing whatever of value might exist in the insoluble products remaining in the dead germs; the cultures were heated in a temperature sufficient to render them sterile, which was found to be 58-60° C. for one hour. By the addition of a little thymol the fluid could be kept indefinitely in glass-stoppered bottles. This preparation was much stronger than those before described, and experience proved it to be much superior to the others in its action upon the sarcoma. An analysis of the cases treated showed that 48 were round-celled sarcoma, 13 spindle-celled, 7 melanotic, 2 chondro-sarcoma, 3 mixed celled, 14 sarcoma, special type not known. Total number of cases of sarcoma, 93; carcinoma and epithelioma, 62 cases; sarcoma or carcinoma, 10; tubercular, 2; fibro-angioma, 1; mycosis fungoides, 1; goitre, 2; keloid, 1. Of the cases of sarcoma, nearly one-half showed more or less improvement; the variety that showed the greatest improvement was the spindle-celled; that which showed the least, the melanotic. Next in order of benefit was the mixed celled—round and spindle; then round celled, while osteo-sarcoma closely approached the melanotic in showing but little change. In a series of nine cases of melanotic sarcoma, no improvement was noticed in six, very slight in three. Most of the cases of osteo-sarcoma failed to respond to the treatment, many showed



slight improvement, and one case, a very large osteo-chondro-sarcoma of the ilium, apparently disappeared, and the patient remained well for nearly a year, when a recurrence occurred. One case of round-celled sarcoma of the neck, of very rapid growth, showed very marked decrease during the first week's treatment, after which time it continued to grow in spite of large doses of the toxins.

#### REPORT OF SUCCESSFUL CASES.

The most worthy of especial note were the following :

CASE 1. A twice recurrent inoperable sarcoma of the neck with large secondary sarcoma of the tonsil.

Last operation performed by Dr. Wm. T. Bull, March, 1891. The tumor was so extensive that only a portion could be removed ; the general condition of the patient, May 4, 1891, was so bad that he was expected to live but a short time. He could swallow no solid food, and liquids with difficulty. He was treated from May 4 until October 8, 1891, with repeated local injections of living cultures of streptococcus of erysipelas ; decided improvement followed the injections, and whenever they were discontinued for a short time the growth increased in size. On October 8 a severe attack of erysipelas was produced by using a new and more virulent culture. During this attack the tumor of the neck nearly disappeared, the tumor of the tonsil decreased in size ; general condition of the patient rapidly improved, and he had soon regained his usual health and strength. He has had no treatment since. He was last seen in September, 1895, four years later, at which time the tumor of the tonsil, though still present, had greatly shrunk in size ; there was a small mass at the site of the old scar in the neck, apparently made up of cicatricial and fibrous tissue.

#### MICROSCOPIC REPORT.

(Copy from Records, N. Y. H. Laboratory.)

Operation : A piece of tumor, about the size of an orange, was removed, but a portion yet remains, being too deeply seated for extirpation.

Microscopically, the tumor is composed of fibrous tissue and spindle cells, the fibrous tissues predominating in places and in others the spindle cells.

There are many areas of cells resembling mucous cells, and not to be differentiated from myxomata ; vascular supply abundant, and vessel walls formed by tumor tissue.

Diagnosis, "myxo-sarcoma."

FARQUHAR FERGUSON, M.D.,

Pathologist to the New York Hospital.

CASE 2. Large recurrent sarcoma of the back and groin ; entire disappearance of both tumors ; patient in perfect health, without recurrence,

four years after the beginning of the treatment, and more than three years after the cessation of the treatment.

Patient, male, aged 40; sarcoma of the back and lower lumbar region 7x4 inches, with a secondary tumor the size of a goose-egg in the groin. The groin tumor was removed by operation, January, 1892; it rapidly recurred. Patient was examined by Dr. Wm. T. Bull and several other surgeons, who all regarded the case as inoperable. Diagnosis of sarcoma was made and confirmed by Dr. Farquhar Ferguson's (pathologist to the New York Hospital) examination of a portion removed under cocaine.

Treatment by repeated daily injections of living bouillon cultures of erysipelas was begun in April, 1892. At the end of two weeks a severe attack of erysipelas was produced. At the end of three weeks both tumors had entirely disappeared. Recurrence followed in July, and the tumors, both in the back and the groin, grew more rapidly than before. The injections were resumed, and between October, 1892, and January, 1893, the patient had four additional attacks of erysipelas; they were milder in character, and the effect upon the tumor was less striking.

In January, 1893, the tumor in the back was removed, but that in the groin left undisturbed. At the end of three weeks there was an apparent recurrence in the back, and the injections with the mixed toxins of erysipelas and bacillus prodigiosus were then begun. Both tumors quickly disappeared. Treatment was discontinued in March, 1893; patient has been in perfect health, free from recurrence since.

#### PATHOLOGICAL REPORT.

(Copy from Records N. Y. H. Laboratory.)

The tumor is a sarcoma, in which the cells are round, oval, and spindle, in which everywhere there is seen a stroma of fibrous tissue, apparently the remains of a subcutaneous tissue, which has not been completely destroyed during the development of the tumor. Yellow elastic fibres are quite abundant throughout the tumor, but the vascular supply is not very abundant.

FARQUHAR FERGUSON, M.D.,

Pathologist to the New York Hospital.

CASE 3. Large inoperable sarcoma of the abdominal wall and pelvis; entire disappearance of the tumor; no recurrence three years after.

The patient, a boy of sixteen years of age, had a tumor 7x5 inches in extent, involving, apparently, the entire thickness of the abdominal wall, attached to the pelvis, and, judging from the symptoms and position, evidently involving the wall of the bladder. A portion of the tumor was removed, and pronounced spindle-celled sarcoma, by Dr. H. T. Brooks, pathologist of the Post-Graduate Hospital. The case was regarded as inoperable by Prof. L. Bolton Bangs, and referred to Dr. Coley for treat-

ment with the toxins. Patient was admitted to the N.Y.C.H., January, 1893; treated for three months with the mixed filtered toxins. At the end of that time the tumor had nearly disappeared, and the remainder was gradually absorbed after the injections were discontinued; there was no breaking down of the tumor tissue; patient has been in perfect health up to the present time, more than three years after cessation of treatment.

#### PATHOLOGIST'S REPORT.

Spindle-celled sarcoma.

H. T. BROOKS, M.D.,

Pathologist to the Post-Graduate Hospital.

CASE 4. Large inoperable sarcoma of the abdominal wall; entire disappearance; no recurrence two and one-half years afterward. The patient, a woman, twenty-eight years of age.

Exploratory operation had been performed in August, 1893, by Dr. Maurice H. Richardson, of the Massachusetts General Hospital. The tumor was too large to be removed; a portion was excised for microscopic examination. The diagnosis made by Dr. W. F. Whitney, pathologist to the hospital, was fibro-sarcoma. The patient was sent to Dr. Coley by Dr. Richardson for the erysipelas treatment. The injections with the mixed toxins were begun in October, 1893, and continued for ten weeks; the tumor entirely disappeared. The patient is still in perfect health, with no trace of recurrence.

#### PATHOLOGIST'S REPORT.

August 31, 1893.

The specimen from the tumor of the abdominal wall (Mrs. L.) was a small, dense, ill-defined, whitish, fibrous-looking mass, which, on microscopic examination, was found to be made up of large numbers of small cells, with a tendency to form fibres. This latter condition was more marked in some places than others. The diagnosis is fibro-sarcoma.

W. F. WHITNEY, M.D.,

Pathologist to the Massachusetts Hospital, Curator Warren Museum,  
Harvard Medical School.

CASE 5. Spindle-celled sarcoma of the leg. Popliteal region. Three times recurrent. Disappearance. Recurrence in gluteal region after one and a half years.

The patient, a girl, 15 years of age, had undergone three operations by Dr. Wm. T. Bull, for spindle-celled sarcoma starting in the metatarsal bone. In January, 1894, a tumor the size of a child's head was removed from the popliteal region. The one in the stump, the size of a hen's egg, was left to test the value of the toxins. Complete removal of the tumor in the popliteal region was impossible. The toxins were administered at the New York Hospital, under Dr. Bull's direction, for about two months;



treatment was continued at the New York Cancer Hospital by Dr. Coley. The indurated mass in the calf slowly disappeared ; tumor in the stump also disappeared.

Patient remained well for one and a half years. At the end of that time there was a recurrence in the gluteal region. The toxins were again administered ; the tumor diminished in size, and in February, 1896, was removed.

#### PATHOLOGICAL REPORT.

Tumor the size of a child's head, measuring  $9 \times 7 \times 4\frac{1}{2}$  centimeters, is partly surrounded by a smooth capsule, but presents many freshly incised surfaces ; whitish in color ; very firm ; of little vascularity, and presenting the appearance of fibro-sarcoma.

Microscopic examination of the tumor shows the typical structure of a fibro-sarcoma, with sarcoma elements predominating ; vascular supply fairly predominant.

F. FERGUSON, M.D.,

Pathologist, New York Hospital.

CASE 6. Extensive spindle-celled sarcoma of the scapula and chest-wall ; entire disappearance of the tumor under three months' treatment ; patient at present in perfect health ; no trace of recurrence twenty-three months later.

The patient, a girl, aged 16 years, was admitted to the "incurable ward" of the New York Cancer Hospital on June 20, 1894. The tumor apparently started in the region of the left scapula four months before, and extended to the vertebral line behind, and in front to the edge of the sternum ; it was fixed to the chest-wall, measured 13 inches behind, 7 inches in front. The left arm was bound down by the new growth so that it could not be raised to a horizontal position ; the skin was normal ; there were no general or local signs of inflammation. A portion of the tumor was removed for microscopic examination, and a diagnosis of typical spindle-celled sarcoma was made by Dr. H. T. Brooks, pathologist to the Post-Graduate Hospital. The patient was treated for three months with daily injections of the mixed unfiltered toxins ; improvement was immediate, and the tumor very rapidly disappeared by absorption. Patient remains in perfect health at the present time.

#### PATHOLOGIST'S REPORT.

Typical spindle-celled sarcoma.

H. T. BROOKS, M.D.,

Pathologist to the Post-Graduate Hospital.

CASE 7. Intra-abdominal round-celled sarcoma of mesentery and omentum ; disappearance ; patient well, without evidence of recurrence one and a half years later.

The patient, female, aged 23 years, was operated upon by Dr. Willy Meyer, at the German Hospital, in August, 1894. A small tumor involving the mesentery, omentum, large and small intestine, was found and removal considered impossible. Portion was excised for examination and pronounced by Dr. Schwytzer, the pathologist of the German Hospital, "round-celled sarcoma." Patient was referred to Dr. Coley for treatment with the toxins. Injections were given in the gluteal region and abdominal wall for about six months, with occasional intervals. In February, 1896, an attempt was made to close the sinus in the abdominal wall which had persisted since Dr. Meyer's operation. The sinus was found to lead into the gall bladder and several impacted gall-stones were removed; careful exploration of the abdomen failed to reveal the presence of any tumor. Patient perfectly well, August 7, 1896.

CASE 8. Epithelioma of the chin, lower jaw, and floor of mouth; entire disappearance; patient perfectly well two years later.

The patient, a woman, 34 years of age, was admitted to the Methodist Episcopal Hospital in May, 1894. A rapidly growing tumor was found, involving lower jaw, floor of mouth and soft part of the chin, extending over an area about the size of a silver half-dollar, presenting the appearance of a typical epitheliomatous ulcer. The patient was regarded as inoperable by Dr. George R. Fowler; a portion of the growth was excised and diagnosed as epithelioma, by Dr. Wm. N. Belcher, pathologist to the hospital. The patient was treated at the New York Cancer Hospital from June, 1894, till September, 1894, with the mixed unfiltered toxins. There is no trace of the tumor to be found at present and the woman is in perfect health (July, 1896).

#### PATHOLOGIST'S REPORT.

Material from chin and lower jaw, May 20, 1894. Sections were not entirely satisfactory, but from the gross appearance of the materials, and those revealed by the microscope, the diagnosis of epithelioma is offered.

W. N. BELCHER, M.D.

CASE 9. Enormous osteo-chondro-sarcoma of the ilium; tumor disappeared; patient regained his usual health and remained well for seven months, at which time a recurrence occurred. The tumor has resisted further treatment; the patient, although alive, is in a hopeless condition.\*

CASE 10. Spindle-celled sarcoma of the hand, six times recurrent; remained well for one year, then recurred.

CASE 11. Very large, twice recurrent angio-sarcoma of the breast; treated for six months with the erysipelas and prodigious serum; marked

\* Patient died, July, 1896.

reduction in size, making the tumor easily removable ; excision, September, 1895 ; no recurrence, February 8, 1896.

The patient, a woman aged 59 years, was admitted to the New York Cancer Hospital on January 20, 1895 ; had a very large recurrent tumor in the region of the left breast, extending from the sternum to the mid-axillary line ; the tumor was fixed to the chest-wall, and entirely inoperable ; patient was extremely weak. She improved slowly under the local injections of the erysipelas serum, and in September the tumor had become so much reduced that it was easily excised.

#### MICROSCOPICAL REPORT.

I have examined a large number of sections from different parts of the tumor of breast of No. 207, and although there is considerable diversity in detail of the new growth in different parts, I think that the structures are all referable to the type of angio-sarcoma, which accordingly is the anatomical diagnosis.

T. MITCHELL PRUDDEN, M.D.

CASE 12. Large inoperable round-celled sarcoma of the iliac fossa ; treatment was begun in June, 1893 ; tumor almost entirely disappeared ; patient was in good health, August, 1894, after which time he was lost sight of.

CASE 13. Probable sarcoma of the sacrum ; disappearance of tumor ; complete restoration to health.

The patient, male, 38 years of age, began to lose flesh and strength in February, 1895. Later had severe pains in lower portion of the spine and sacrum, shooting down the legs. April 1, began to get lame in the right leg ; soon after in the left ; all of the symptoms progressively increased, and on the 2nd of May his weight had fallen from 175 to 134 pounds. He was admitted to Dr. Kinnicutt's service at St. Luke's Hospital ; rectal examination showed a tumor, hard in consistence, attached to the anterior portion of the sacrum, the lower portion of which only could be reached with a finger. Clinical diagnosis of Dr. Kinnicutt and the others who saw the patient in consultation was inoperable sarcoma. No microscopic examination was made. A two to three weeks' trial with the erysipelas toxins was advised by Dr. Coley. The improvement was almost immediate ; injections were made into the buttocks ; treatment was repeated daily, and at the end of one week the excruciating pain had almost entirely subsided, the lameness improved rapidly, and at the end of six weeks the patient had gained 28 pounds and was able to resume his work. Examination March 8, 1896, showed the patient to be in perfect physical health ; his lameness had disappeared ; no trace of a tumor could be detected on rectal examination ; his weight at that time was 175 pounds.



Several other cases in which very marked improvement had followed the use of the toxins were reported.

Attention was further called to nine successful cases in the hands of other surgeons who had used this method. The most important of these were the following :

CASE 1. A large spindle-celled sarcoma involving almost the entire palate and pharynx. This case, it was stated, had already been reported in the *New York Medical Record*, November 17, 1894, but its value was greatly enhanced by the fact that there had been no recurrence two years afterwards.

CASE 2. Extensive inoperable intra-abdominal sarcoma, reported by Dr. Herman Mynter, of Buffalo, in the *New York Medical Record*, February 9, 1895. In this case the tumor disappeared, and up to April, 1896, there had been no recurrence.

CASES 3-6. Drs. L. L. McArthur and John E. Owen, of Chicago, had had three successful cases, although sufficient length of time had not elapsed to determine whether or not they could be classed as cured. All of the cases were recurrent, and in two amputation of the leg had been advised ; in a third, amputation of the arm.\*

CASE 7. Czerny, of Heidelberg, who has used the method in four cases of sarcoma and in four of carcinoma, has reported one case of rapidly growing, inoperable, round-celled sarcoma of the parotid, which nearly disappeared under the influence of eighteen injections. The case has been more recently referred to as cured, by Glueckmann.

CASE 8. Dr. Judson C. Smith, of the Post-Graduate Medical School, had a case of small round-celled sarcoma of the neck, the size of an orange, disappear entirely under eight weeks' treatment with the mixed toxins. Microscopic examination was made. Patient gained 25 pounds in weight, remained well for a number of months, at the end of which time a recurrence took place.

CASES 9-10. Two other successful cases were briefly reported, both of which were confirmed by microscopic examination ; both cases were recent, and, therefore, could not be classed as permanent cures.

The writer stated that he did not expect the profession at large to accept without question and criticism such remarkable results as he had reported, and for that reason he had related with some detail the successful cases in the hands of other surgeons who had employed this method. He was of opinion that a series of upwards of twenty successful cases of inoperable sarcoma (four of which had remained well upwards of two and a half years), the diagnoses of which had been established beyond question according to accepted methods of diagnosis, ought to be sufficient to

\* In two of these cases there was a suspicion of recurrence in April, 1896.

demonstrate the real and positive advance that had been made in a field which, up to this time, had been regarded as absolutely hopeless. He did not doubt that there were those who would still remain skeptical about the value of the toxins in spite of the evidence presented. Such persons must either fail to see any logical connection between the accidental erysipelas and the toxins, or they must go even farther and deny that there are any authentic cases of malignant tumors that were cured by accidental erysipelas. The only explanation they can have to offer for the results which cannot be questioned is, that in all the successful cases there must have been an error of diagnosis.

Such an explanation might be entitled to some consideration were a single case only involved, but those who would seriously propose it as a satisfactory explanation, in view of the results in more than twenty cases, could not claim to be guided by scientific principles. The writer stated that he had carefully examined the literature of the subject of spontaneous disappearance of tumors supposed to be malignant, but had failed to find a single instance in which the diagnosis had been confirmed by the microscope. It would appear remarkable that these cases should be the first on record with a clinically and microscopically confirmed diagnosis to disappear spontaneously, and it would seem more remarkable still that this disappearance should be coincident with the beginning of the treatment with the toxins.

Furthermore, it would be clearly unfair to rule out these cases on the ground of error in diagnosis, without ruling out the cases of cure following operation for the same reason.

The writer then briefly referred to the various theories that had been offered in explanation of the action of the toxins. He still adhered to his opinion, expressed in his earlier paper, published in December, 1892, that the micro-parasitic origin of malignant tumors furnished the only rational explanation of this action. His conclusion were, (1) that the mixed toxins of erysipelas and bacillus prodigiosus exercise an antagonistic and specific influence upon malignant tumors, which influence in a certain proportion of cases may be curative. (2) That the influence of the toxins is very slight in most cases of carcinoma, including epithelioma, most marked in sarcoma, but that it varies greatly with the different types, the spindle-celled form being by far the most responsive to the treatment. (3) That the action of the toxins is not merely local in character, but systemic. (4) That the toxins should be reserved for use in clearly inoperable cases of sarcoma, or in cases after primary operation, to prevent recurrence.

## DISCUSSION.

DR. WELCH.—I have been very much impressed by this personal statement from Dr. Coley, and I see no way of gainsaying the evidence which he has brought forward, that there is something specifically and genuinely curative in his method of treatment. A single undoubted cure of a demonstrated cancer or sarcoma by this treatment would be enough to establish the fact that the treatment exerts some specific curative effect, for the spontaneous disappearance of undoubted malignant growths of this character is almost unknown. Dr. Coley has, however, presented to us positive proof of the cure, not of one only, but of several cases of malignant tumor by his method. Although I suppose that in any given case the chances of cure by this method are at present not great, still the demonstration that cure is possible gives every encouragement for perseverance in this line of investigation and work, and for efforts to perfect the method of treatment.

It is interesting to learn that the most strikingly beneficial results have been obtained in the treatment of spindle celled sarcomata. There are certain kinds of sarcomata which some pathologists are inclined to rank rather among the infectious tumors than among the genuine tumors, in the sense in which these terms are used by Cohnheim ; but it is rather certain sarcomata of the lymphoid type than the fusiform-celled sarcomata which are thus believed to be possibly outside of the class of genuine tumors, according to Cohnheim's classification.

As Dr. Coley suggests that the variations in his results may depend in part upon variations in the virulence of his cultures, and as it is well known that streptococci vary notably in virulence, I would like to ask if he has as yet utilized the methods of Marmorek in order to obtain cultures of uniformly high degrees of virulence. Dr. Livingood, in my laboratory, has confirmed the results of Marmorek and succeeded repeatedly by his method in transforming streptococci of low virulence into those of very exalted virulence.

It seems to me that it would be practicable and most interesting, and possibly demonstrative of the specific effects of the treatment, if Dr. Coley, in carrying out his researches, would occasionally cut out small bits of tissue from the tumor, and by their examination endeavor to determine the details of the process of cure.

It does not seem to me absolutely necessary to adopt the hypothesis of the parasitic causation of these malignant growths in order to explain their disappearance under this treatment. It is conceivable that the peculiar biological properties of the tumor cells—and peculiar they unquestionably are—may render them particularly susceptible to the toxic substances injected. The evidence that the curious bodies often seen in malignant



tumors are genuine parasites is, in my opinion, far from conclusive at the present time.

DR. FINNEY.—I have had the opportunity of observing the action of both the erysipelas organism and the toxin in a number of cases, both in hospital and private practice. One point which Dr. Coley has not mentioned to-night, but which he has referred to previously, I will speak of, because I think it of great value. It is the influence of the treatment on cases which may not finally result in a cure. The first case in which I used the erysipelas occurred about the time Dr. Coley began to make his observations in New York. It was a case of a woman with inoperable carcinoma of both breasts. Against my will, but at the urgent request of herself and her husband, I inoculated with a pure culture of the erysipelas streptococcus. She had at the time a very distressing and severe cough, with intense pain, evidently from involvement of the pleura. She had also evidences of internal metastases. After the first reaction from the erysipelas the pain almost entirely disappeared, and did not reappear with severity while the patient lived. She had been almost constantly under the influence of morphia up to the time of the inoculation, and after that time she had only a little codein from time to time to relieve her cough, which persisted after the pain had disappeared. I observed a similar action in another case. I think this patient lived three months after the inoculation. She gradually wasted away, more from inanition resulting from the internal metastases.

I had one case of inoperable carcinoma of both breasts, in which it was impossible to produce any reaction from the erysipelas. I injected it under the skin, I scarified and dressed the wounds in pure cultures in large amounts in very virulent erysipelas without getting the slightest reaction. Of course there was no result from this case.

I would like to ask Dr. Coley whether he has ever observed any cumulative effect of the toxins? In one or two cases it seemed as if that had happened. After a number of injections with gradually increasing doses, without any reaction, a sudden tremendous explosion would take place which slowly subsided, and then for a varying length of time there would be no reaction, even with larger doses than were used previously.

I have observed no cases up to the present time where there has been a cure. But, unfortunately, all the cases in which I have used it, except one under treatment at the present time, have been either carcinoma or cases of sarcoma that were beyond hope from any source.

DR. COLEY.—I have been very much interested in the discussion, and I think I have gained as much from it as anyone. I was particularly interested in the remarks of Dr. Welch. I did not mean to make quite so strong a statement in regard to the parasitic theory; I should have said that that was the way it appeared to me.

I have used the streptococcus from all sources, but the streptococcus from a virulent case of erysipelas seems to have a better effect than a streptococcus from an abscess.

I have used Marmorek's method somewhat. Mr. Buxton has repeatedly passed the cultures through rabbits, and he had been doing it for some time before Marmorek's paper came out. This is the way, I believe, in which improvement in technique is to come, along the lines which Marmorek has shown us, in increasing the virulence of the cultures.

I will say, in answer to Dr. Bloodgood's question regarding metastases, that the patient with sarcoma of the back and groin was a case of marked metastases, the tumor being the size of a goose egg and also recurrent in the groin. That case has remained well over three years since the cessation of treatment.

A case which I published a year ago, treated by Dr. Rumgold, of San Francisco, was one in which a round-celled sarcoma reappeared eight times in the breast. It disappeared under the mixed toxins, but the patient died a few weeks later. Autopsy showed very extensive metastatic deposits in the internal organs. In this case the external growth had been cured, but the internal growths were too far gone to be influenced.

About removing specimens during the course of the treatment, as suggested by Dr. Welch, I will say that I have done that in a considerable number of cases. In many of these cases a marked fatty degeneration and necrosis of the malignant cells were clearly visible under the microscope. I shall try to show these changes in micro-photographs of the sections.

In regard to intra-orbital sarcomata, I have not had an opportunity of treating such cases before removal of the eye. I have had four or five cases of recurrent tumors in the orbit after the eye had been enucleated. The effects were very slight, if any. They were all melanotic or round-celled sarcomata.

As to the safety of the treatment, I think that if the cases are selected with some judgment the injections can be used with almost perfect safety. I have had three cases in which I am sure death was hastened by the use of toxins. In one case I ought not to have used the treatment. There was an enormous sarcoma of the scapula and chest wall. The patient was so much emaciated that he could not have lived more than a couple of weeks, but with two very minute doses of the weaker solution of the toxins he lived only three days.

The differences obtained by the same doses at different times is best explained, I think, not by cumulative action, because that is not clearly proven, but by the fact that the reaction is greatly increased when the injection is made into a more vascular part. A patient can stand perhaps

five to ten times as much injected subcutaneously remote from the tumor as he can into a vascular tumor. Sometimes we inject into a part that is more vascular than others, and to this is to be attributed the difference in reaction. I always caution anyone to begin with the minimum dose and increase it very gradually. One half a minim of the unfiltered mixed toxins is sufficient for the initial dose.—*Johns Hopkins Hospital Bulletin.*



## Clinical Notes.

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### VENTRO-FIXATION OF THE MESO-RECTUM IN A CASE OF PROLAPSUS RECTI.

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REPORTED BY W. J. CHAPMAN, M.B.,

THEDFORD, ONT.,

Late House Surgeon Toronto General Hospital.

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MISS X—, æt. 30, entered the Toronto General Hospital in March, 1896, under care of Mr. I. H. Cameron, for treatment of prolapsus recti.

The condition is reported by relatives to have been noticed subsequent to a fall in patient's third year. The eversion occurred frequently each day, and followed any strain, as in coughing, dancing, etc.; if tired, even walking produced it. The everted mass measured seven inches in length; reduction was usually easy, though occasionally difficult, when hæmorrhage would follow. Patient had not freedom from pain for years past. The condition became worse each year, markedly so after a fall in November, 1895. The anal muscles were so atonic that an enema flowed away as freely as supplied.

Adopting the suggestion made in 1888 by Mr. Herbert Allingham, and put into effect in 1894 by Mr. Caddy, of Calcutta, Mr. Cameron made a coeliotomy in the left inguinal region in April, 1896, and, assisted by Dr. Teskey, attached the meso-rectum to the anterior abdominal wall.

The result of the operation is all that could be desired, with gradual improvement in the tone of the anal musculature. (October, 1896.)

# Progress of Medicine.

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## OBSTETRICS

IN CHARGE OF

ADAM H. WRIGHT, B.A., M.D. Tor.,

Professor of Obstetrics in the University of Toronto; Obstetrician to  
the Toronto General Hospital;

ASSISTED BY

H. CRAWFORD SCADDING, M.D.,

Physician to Victoria Hospital for Sick Children.

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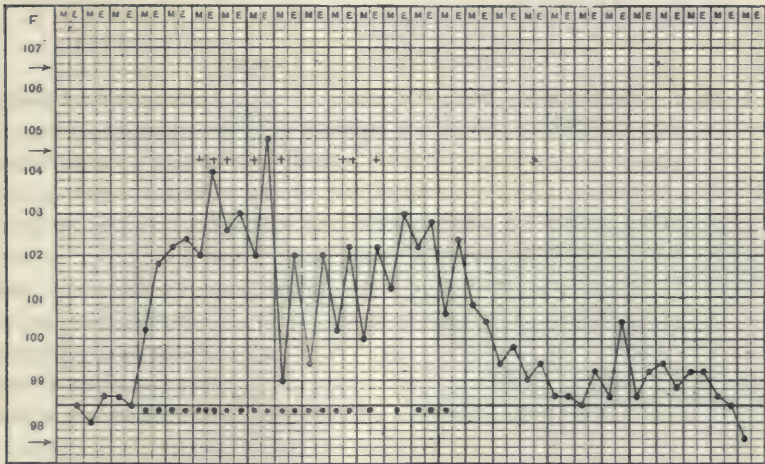
### THE EXAMINATION OF THE ABDOMEN DURING THE PUERPERIUM.

In the *British Medical Journal*, 1896, No. 1,856, McCann gives his results in the study of involution. His method consisted in measuring with a tape-line from the middle of the fundus uteri to the pubes, taking this at the same hour and with the bladder and rectum of the patient empty. Septic cases were excluded. In 37 primiparæ the uterus was found in the true pelvis in 29 before the thirteenth day. In 21 multiparæ the womb had entered the pelvis in 13 before the thirteenth day.

Conditions which favored prompt involution were full-term labor, involution being delayed after premature labor; normal or excessive length of labor; and the parity of the patient, as after repeated labor involution is slower. Contrary to what is commonly held, McCann could not find that lactation furthered involution, but rather predisposed to anæmia, which delayed it in many cases. Women who had no secretion of milk whatever often had the most complete involution. Prolonged lactation produced super-involution, a distinctly pathological condition. He also observed that involution proceeds most rapidly during the first week of the puerperium. After-pains, in these cases, had no effect on involution, but are abnormalities in involution, caused either by retained clots or placental remains, or without known cause, resembling dysmenorrhœa.—*American Journal of the Medical Sciences.*

## TREATMENT OF PUERPERAL INFECTION.

Dr. Barton Cooke Hirst, of Philadelphia, in a paper on "Modern Methods in the Treatment of Puerperal Infection," published in *The American Journal of Obstetrics*, August, 1896, thus speaks of serum and therapy and treatment by the artificial production of hyperleucocytosis: After an earnest study of this subject—for it is of transcendent importance to a man engaged in work like mine—it seems to me that our judgment on the serum therapy of streptococcus infection must run as follows, in the light of our present knowledge: It requires a long time and especially virulent inoculations to obtain a serum with antitoxic and germicidal properties. It should be prepared, therefore, with great care, and should be obtained from a thoroughly reliable source. There is a possibility that



Bar and Tissier's case of serum therapy for streptococcus infection. Woman died from a toxemia. + represents serum injections; • represents intrauterine irrigations.

this serum may contain dangerous toxins, and that the treatment may be more dangerous than the disease. There is a streptococcic infection so virulent that the antitoxin will be of no avail, no matter how strong it may be. There is an undeterminable time in streptococcic infections when the serum will be used too late. The antistreptococcic serum has no antagonistic power over other pathogenic micro-organisms. It is not easy to determine during life whether the infection is pure or mixed, though the majority of the puerperal infections are due to streptococci. Therefore, the use of the serum must be more of less empirical. Finally, the clinical results of the serum therapy for puerperal infection have not been as yet at all encouraging.



*The Treatment of Septic Infection by the Artificial Production of a Hyperleucocytosis.*—A large and influential school of pathologists regard phagocytosis as the agency by which an infectious disease is spontaneously cured. It is logical, therefore, in those holding this belief, to attempt the treatment of septic infection by stimulating the production of white blood corpuscles that shall serve as phagocytes. There are several agents administered internally that have leucotaxic powers, such as pilocarpin and nuclein. The former, however, is not advisable in sepsis, on account of its depressing action.

Hofbauer,\* from Schauta's clinic in Vienna, reports the results of employing Horbaczewski's nuclein in seven cases of puerperal infection. The cures effected in some of these cases certainly warrant a further trial of the method. To my mind this plan of treatment gives greater promise of practical results than does the serum therapy.

#### THE THIRD STAGE OF LABOR.

A. H. F. Barbour says, from the study of uteri removed by Porro's operation, that the placenta does not separate until the commencement of the third stage of labor; that its texture is such that it can accommodate itself to the shrinking of its side until the uterus contains nothing but placenta without separation taking place; that there is no empty space in the uterus into which the placenta could bulge; and that there is not sufficient evidence to support the view that retroplacental hæmorrhage is a factor in its separation. This view is borne out by the frozen sections of Pinard and Tarnier, the chief points of interest being the great diminution in area of the internal surface of the uterus with non-separation of the placenta, even at the lower segment. The thickening and moulding of the placental tissue shows how the placenta accommodates itself to the reduction of its site. At the commencement of the third stage we have the placenta yet unseparated, although the site may be but one-fourth of the area it covered in pregnancy, and the uterus embracing the placental mass on all sides, there being no empty space in the uterus.

*Clinical Importance.*—1. It explains the well-known fact that patients do not bleed until the third stage has begun, refuting the theory that separation occurs during the second stage.

2. It gives us a rationale of the arrest of hæmorrhage, viz., that the process of retraction means a complete rearrangement of the muscular network through which the vessels pass, implying constriction or ligation at various points. As this retraction and constriction have taken place largely before the placenta has separated, shown by its shrunken and bulged condition, the vessels are, therefore, ligated before the placenta is amputated.

\*Centralblatt für Gynäkologie, No. 17, 1896, p. 441.

3. Shrinking of the placental site beyond which the placenta can follow it, a limit which must be reached during the third stage of labor. The contractions of the uterine wall force the placental mass onward toward the point of least resistance, as it forced the foetal mass onward in the second stage of labor.—*American Gynæcological and Obstetrical Journal*.

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#### PRURITUS VULVÆ.

*The Medical Record* gives the following prescriptions for the treatment of pruritus vulvæ, recommended by Bartholow :

- |       |                            |         |
|-------|----------------------------|---------|
| R     | Chloral camph.....         | ℥ ii.   |
|       | Bismuth subnit.....        | ℥ ii.   |
|       | Aquæ rosa.....             | ℥ iv.   |
| M. S. | Apply to the parts.        |         |
| Or    |                            |         |
| R     | Argenti nitratis.....      | gr. xx. |
|       | Aquæ.....                  | ℥ i.    |
| M. S. | Paint over affected parts. |         |
- 

#### EFFECTS OF LACTATION ON MENSTRUATION AND IMPREGNATION.

Dr. L. Remfrey, in a paper read before the Obstetrical Society, London, concludes as follows: (1) Of nursing women, fifty-seven per cent. only have absolute amenorrhœa. (2) Forty-three menstruate more or less, but twenty per cent. have absolute regularity. (3) Impregnation does not take place so readily during lactation as at other times, but this is not true to such an extent as has been imagined. (4) If absolute amenorrhœa is present during lactation, the chances of impregnation occurring are only six out of one hundred. (5) If menstruation occurs during lactation, the chances are sixty in one hundred. (6) The more regular a woman is during lactation the more likely is she to become pregnant. During a menstruating lactation the changes in the uterus are presumably similar to those connected with the ordinary monthly periods, and the mucous membrane forms a nidus for the ovum. (8) In the woman who does not suckle at all, the menses appear, as a rule, some time in the first six weeks after delivery.—*N. Y. Medical Record*.

# SURGERY

IN CHARGE OF

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## REMOVAL OF ONE-HALF OF THE KIDNEY FOR TUBERCULOSIS; FAVORABLE PROGNOSIS IN RENAL MALIGNANT DISEASE.

How important has become the application of surgery to the kidney is shown by the fact that a single operator, J. Israel, of Berlin, is able to report (*Deut. med. Woch.*, May 28, 1896) 126 cases so treated by himself. Eleven times the kidney was extirpated on account of tubercular disease. In a twelfth case, the lesions were situated so evidently in one end of the organ that Israel decided to remove only the upper half of it. Hæmorrhage was avoided by digital compression of the renal artery during the cutting away of the diseased portion. Then a compress was held against the cut surface for some minutes; upon its removal there was no bleeding, but, for safety, a piece of gauze was stitched by catgut against the cut surface. Recovery was prompt and complete, and the patient has remained in good health for over a year.

This operation is recommended only in exceptional cases, as tubercles too small to be observed at the operation usually extend beyond the area of the gross lesion.

Another encouraging feature of this report is the chapter on malignant tumors of the kidney. There were seventeen such cases—six carcinomata, ten sarcomata, and one so-called struma renalis. Complete nephrectomy was performed in each case. Two patients died from operation; one a year later, of acute peritonitis, without recurrence of the cancer, and six were well at the time of report, no recurrence having manifested itself in periods ranging from fifteen months to nine years.—*Medical News.*



CONTRACTION OF THE ARTERIES OF A LIMB THE PROBABLE CAUSE OF  
MUSCLE ATROPHY IN TUBERCULAR JOINT DISEASE.

My object (says Dr. A. G. Miller, in *Edinburgh Medical Journal*) will be to show that in all probability the muscle atrophy which accompanies tubercular disease of a joint is due to diminished blood supply caused by contraction of the main blood-vessels of the limb.

Two years ago, in two papers read before this society, I mentioned that I had frequently noticed, when amputating for tubercular joint disease, that the main blood-vessels were unusually small, and I associated this with the atrophy which is so characteristic of tubercle. I was all the more inclined to take this view of the matter because I have been unable to find any satisfactory explanation of muscle atrophy, and that the atrophy is caused by a reflex influence acting through the anterior horns of the spinal cord. In regard to the exact way in which this reflex acts there seems, however, to be a difference of opinion among physiologists and pathologists. Some believe that there are special trophic nerves supplying the muscles along with the motor nerves. Others consider that the vaso-motor nerves are the true trophic nerves. I will not, however, enter upon a discussion of this subject. I do not consider myself qualified to do so, and I do not at present think it necessary to establish proof one way or another. I will merely say that to my mind it seems highly probable that vaso-motor influences govern muscle nutrition, *vaso-dilatation* causing increase of growth, and *vaso-contraction* causing atrophy. I employ these terms in a general sense, viz., increase or diminution of vascular calibre from any cause.

Supposing, therefore, for the sake of my argument, that the vaso-motor system controls muscle nutrition, I suggest that probably the cause of muscle atrophy in tubercular joint disease is a *diminution of the blood supply from contraction of the main artery or arteries*. In support of this I would point to the following facts :

1. Contraction of the arteries exists in cases of tubercular joint disease. This I have frequently seen, and I show you a leg recently amputated which exhibits the condition very markedly.

In my paper on Bier's method of treating tubercular joint disease by congestion, referred to above, I use the following expressions : " There is a condition associated with tubercular joint and bone disease which I have observed, but which, so far as I know, has not received much attention, viz., that the arteries supplying the limb are unusually small." In my paper on the " Diagnosis of Tubercular Joint Disease " I say also : " The atrophy is of the limb as a whole, muscle and bone alike, and it tends to persist. What is the explanation ? I believe that the cause is a reflex contraction of the arteries of the limb, which interferes with nutrition. I

have been led to that opinion by observing, when I have had occasion to amputate for tubercular joint disease, that, though there may be many active vessels in the neighborhood of the disease, the main arteries are always very small. I have often observed the latter about half the size one would expect them to be under ordinary circumstances—in a primary amputation, for instance.” I conclude, therefore, that contraction of the main blood-vessels exists in tubercular joint disease.

2. This brings me to my second point, which is the co-existence of arterial contraction and muscle atrophy, not only in cases of tubercular joint disease, but also under other circumstances. For instance, it is proved by Thoma to occur in stumps after amputation. I shall refer to this again. In the meantime I turn to the question, If these two co-exist (as they certainly do), which is the cause and which the effect, or are they both the result of a common cause?

It seems to me that muscle atrophy is not likely to be the cause of diminished blood supply. It is much more likely to be the result. They are both symptoms of the same disease, viz., tubercular joint disease, but they may be so because the one depends upon the other, and, as I have already said, diminished blood supply is more likely to be the cause than the result of muscle atrophy.

In speaking of atrophy generally, Thoma gives three causes or explanations: 1, Want of use; 2, vaso-motor disturbance; 3, possible trophic nerve influence. All of these influences may, I think, imply diminished blood supply. For instance, “want of use” means lessened demand for blood; vaso-motor disturbance that produces atrophy is likely to be of the nature of vaso-contraction; and we have seen that the true trophic nerves may be the vaso-motor system. I think, therefore, that arterial contraction, and, consequently, diminished blood supply, is a cause, and a very likely one also, of atrophy. I have recently come across statements which tend to support this view. Mr. W. G. Spencer, in his Erasmus Wilson Lectures on the Pathology of Bone, says, “A diminution in the arterial blood supply checks the formation of bone whilst absorption continues, so that eccentric atrophy is brought about.” And again he says, “Atrophy from disuse, and, consequently, diminution in the blood supply, suffices to explain the changes in bone without the need of supposing a loss of an efferent trophic influence.”

3. My next point is that the muscle atrophy which is found in connection with tubercular joint disease is simple. This I have referred to in my former papers, but may here quote two extracts from Charcot—“In joint disease the muscle atrophy is simple.” “There is no reaction of degeneration.” Indeed, he dwells strongly and frequently on the muscle atrophy from joint disease differing from that due to nervous causes or

want of use. Others have specially examined the muscles atrophied in tubercular disease, and have found no degeneration, fatty or fibroid. I have had the reaction of degeneration tested for in tubercular joint muscle atrophy, and have found it absent. Now, this is just the kind of atrophy that we would expect to find as the result of deficient blood supply from contracted blood-vessels. Before leaving this point I must say that muscle degeneration is found in far-advanced and old-standing cases of tubercular joint disease, in which the whole limb is atrophied. But this is only what one would expect, seeing the nerves probably share in the atrophic changes after a while, and the functions of all the various parts and tissues are more or less interfered with.

4. My fourth point is that muscle atrophy in tubercular joint disease is *progressive* if the disease be not checked, and *permanent* if the disease be permitted to go beyond a certain point. This can be abundantly proved from ordinary clinical experience. Everyone knows how rapidly progressive muscle atrophy is in tubercular and in some other joint diseases. Unfortunately, the atrophy does not limit itself to the muscles, but extends to the bones and to the limbs as a whole. Now, this is just the result one might expect from diminished blood supply and consequent deficient nutrition. That such atrophy is apt to persist is also easily proved from ordinary clinical experience. Do we not see everywhere shrunk and distorted limbs, the result of untreated and neglected tubercular joint disease? Such atrophy is apt not only to persist, however, but to progress, as in the case of the limb which I show you, in which the femur and tibia have become (from tubercular disease of the knee joint) about half the size (in bulk) of the corresponding bones of the other limb, whilst their length remains much the same; and this change has taken place in twelve months, showing that the comparative alteration in size cannot be the result of mere want of growth on the diseased side.

Now, it seems to me that we have hitherto had no adequate explanation of such a state of matters as this. Why should such a simple atrophy steadily, and sometimes rapidly, increase? Why should it persist, and sometimes go on to permanent and progressive wasting of a whole limb?

That such an arterial contraction exists in stumps after amputation has been proved by Thoma. He has in such cases found a permanent and progressive arterio-stenosis, which is due to two causes—(1) Concentric atrophy of the media; and (2) thickening of the intima by deposit of connective tissue. If this or something similar could be found in connection with tubercular joint disease, it would abundantly explain and clear up the cause of the progressive and permanent muscle atrophy.

Dr. Bruce has kindly examined for me specimens of the popliteal



artery and a portion of muscle from the limb which I have shown, and he reports that he has found slight sclerosis of the intima in the artery and no degeneration in the muscle. There has not been time, however, to make an exhaustive examination, but Dr. Bruce promises to carry out the investigation more fully if I can supply him with material, which I hope to be able to do.

5. I would now go a step further, and say that it is probable that tubercular joint disease causes muscle atrophy by producing anæmia of the muscle through contraction of the arteries.

In support of this statement I would mention one or two facts which I think bear on the subject :

(a) Tubercle is associated with anæmic conditions. The so-called cold abscesses are known to be tubercular, and they have very little vascularity or inflammatory action about them ; hence their name. Again, tubercular joint affections are so bloodless that they used to be called "white swelling." As one more surgical illustration, I would point to the tubercular necrotic areas which we find in bones, which are absolutely bloodless and apparently brought about by destruction of the blood supply. I do not say that all these conditions are due to arterial contraction, for I do not know ; but I point to the association of these anæmic conditions with tubercular disease. I have often thought that in this local anæmic condition of tubercular parts there is an illustration of nature trying to produce a cure by shutting off the blood supply ; in some cases succeeding, in others failing, through falling into a Scylla in avoiding a Charybdis. In other words, the anæmia, whilst checking the inflammation, possibly fails to cure the disease by not supplying sufficient blood to destroy the bacilli.

(b) My next point is that irritation, especially a slight but constantly acting irritation, causes contraction of blood-vessels. Now, tubercular irritation is of this kind, and Charcot says that diseased joints cause rapid and early muscle atrophy, because the irritation is continuous.

(c) Another point is that congestion is unfavorable to tubercle. Rokitsansky stated long ago that "a congested lung possesses an immunity against tuberculosis," and it is admitted that there is some truth in this statement. Page suggested that Koch's tuberculin acted in the same way ; and Bier founded his method of treating tubercular affections by congestion on this dogma of Rokitsansky's.

(d) My next point I submit with considerable deference, because it is a mere fancy of my own. It is that possibly the products of the tubercle bacilli tend to cause vaso-contraction, just as the products of pyogenic organisms cause vaso-dilatation and diapedesis. Ogston, Watson Cheyne, and Treves hold that tubercular abscesses contain no true pus and few

leucocytes. My friend Mr. Stiles tells me, however, that more recent investigations show that there is very little difference between the contents of a tubercular abscess and any other collection of pus. That may be so, so far as the microscope is concerned, but my clinical experience tells me that there is a considerable difference. And I still think that some variation in the vascularity may account for this difference.

6. I now come to my last point. When I first thought of a definite relation between the muscle atrophy and the arterial contraction which I saw in cases of tubercular disease of joints in the way of cause and effect, I realized that there must be some definite connection between the vessels and the muscles, either directly or through the nervous system. It occurred to me also that the tendency of tubercular joint disease to pick out certain muscles for the manifestation of atrophy would, perhaps, help me. I found, however, that whilst in some joints (the shoulder, for instance) association of the diseased joint and the atrophied muscles could be made out quite easily, both through the nervous and the vascular systems, in other joints (the knee, for example) the relation was roundabout and difficult to trace. Arguing, however, from the joint disease as the primary cause, I could see how arterial contraction could be produced quite easily, provided the influence passed through the vaso-motor system, for the vaso-motor system is freely and copiously connected with the spinal system of nerves.

Next came the connection between the vessels and the muscles, and that, of course, was easily made out. But, as I have already indicated, in this connection a very significant fact cropped up as likely either to support or destroy my line of proof—viz., the constant and prominent selection of certain muscles for the exhibition of the atrophy in connection with tubercular joint disease.

Ferrier tells us that extensor muscles atrophy much more quickly than flexors, because they are weaker. One might suppose, therefore, that, given a general atrophy from contraction of the main artery of the limb, the extensors will manifest the change first and most. But there is something more. There is always a close relation between the special vessels supplying a given joint and those supplying the muscles that atrophy most. (See Appendix.) From this intimate relation I gather, therefore, that the special atrophy of certain muscles can be explained on the diminished blood supply theory.

Now, I am quite aware that there are other possible ways of turning the argument, according as one looks at it. For instance, it might be said that whilst the joint disease is, as before, the primary factor, the vaso-stenosis is not the cause of the muscle atrophy, but its result. This would be in keeping with Thoma's theory that the demand creates the supply,

and I thought at one time that this might be the true explanation—viz., muscle atrophy first, then arterial contraction and general progressive atrophy of the limb; but I had two difficulties: (1) This theory left the muscle atrophy unexplained, except by a vague and mysterious trophic nervous influence. (2) The muscle atrophy has been shown to be simple, and not such as occurs in connection with nerve causes. In other words, the facts known fit in better with the explanation that the arterial contraction causes the muscle atrophy than with any other theory I know of.

would sum up my argument as follows:

(1) Muscle atrophy is a constant and prominent symptom in tubercular joint disease.

(2) No explanation of this atrophy has been suggested hitherto, except a vague and mysterious reflex influence.

(3) Contracted arteries have been seen and proved to exist.

(4) The muscle atrophy is of a kind likely to be caused by deficient blood supply rather than by nerve influence.

I assume, therefore, that arterial contraction and consequent diminished blood supply is the cause of muscle atrophy in tubercular joint disease.

#### APPENDIX.

##### RELATION OF ARTERIES SUPPLYING JOINTS TO MUSCLES WHICH ATROPHY.

*Shoulder.* Posterior circumflex and supra-scapular arteries supply joint and also deltoid and scapular muscles.

*Elbow.* General arterial anastomosis round elbow, formed by branches of superior profunda, inferior profunda, and anastomotica. Triceps, brachialis anticus, and coraco-brachialis supplied by superior profunda; biceps by special branches from brachial artery; it sometimes holds out well.

*Hip.* Branches from gluteal and sciatic arteries supply the joint, and also muscles of hip. Artery to round ligament comes from internal circumflex of profunda; hence the thigh muscles atrophy also.

*Knee.* Free anastomosis between articular branches of popliteal, branches of profunda, and anastomotica magna. Quadriceps supplied by various branches from superficial femoral, profunda, and anastomotica, and also branches from superior articular arteries.—*Edinburgh Medical Journal.*



## GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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### TREATMENT OF PROLAPSE OF RECTUM BY TORSION.

This procedure is based on that proposed by Gersung for urethrocele in women and Vreden has used for rectal prolapse. He proceeds as follows : A circular incision is made around the anus half a centimetre outside of the limit of pigmented skin. The rectum is separated from the surrounding tissues to the level of levator ani. All prolapsed parts are replaced, twisted to an angle of  $180^{\circ}$ , so that the external opening will only permit of the passage of a single finger, and fixed in this position by some silk sutures. Union takes place quickly, and the cure is rapid and complete. The author, who has used this method in two cases, explains the favorable results of this simple and almost bloodless operation by (1) the tension caused by twisting on all the layers of the rectal wall ; (2) the even diminution in calibre of the lower portion of the rectum from the level of the levator and by its spiral direction, which prevents the recurrence of prolapse.—*Gazette des Hôpitaux*.

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### A NEW APPARATUS FOR IMMEDIATE AND PERMANENT DRAINAGE OF THE URINARY BLADDER AFTER SUPRAPUBIC CYSTOTOMY.

Joseph C. Bloodgood, M.D., in *Bulletin of the Johns Hopkins Hospital*, describes the apparatus, which consists of a rubber bag reservoir, holding about three hundred and fifty cubic centimetres of urine. Sealed to the upper and central portion of the bag is a thicker piece of rubber with a small opening in the centre, into which the head of the tube is inserted. The ends of an abdominal belt are also fastened to the centre piece. The abdominal belt carries the entire weight of the bag, so that there is no dragging on the tube. Two rubber tubes lead from the bag, the lower one being used to draw off the urine, and the upper one to wash out the bag ; both are provided with stoppers. When the apparatus is used for immediate drainage, it is not necessary to change the position of the

patient to empty the bag, and when the patient is up the bag can be emptied with no more than the usual unfastening of the clothes. The tube used for immediate drainage is made of hard rubber, and consists of three pieces : one piece is shaped like a bolt, the head of which is inserted into the hole of the bag, the elasticity of the rubber making a snug fit. The second piece is screwed on to the bolt so that the rubber bag is held very tightly between the head of the bolt and this piece, and leakage is prevented. The straight portion of the tube has a shoulder 1.5 centimetres from the bladder end, which is pierced by four holes. The tube is first fixed in the bladder, and then the bag armed with the bolt and second piece is screwed into the end of the tube. After opening the bladder, four silk sutures are passed through the wall, not including the mucous membrane, the inner piece of each suture being passed through the corresponding hole in the shoulder of the tube. The tube is inserted into the bladder and the sutures are tied. Gauze is packed down to the bladder about the tube, filling the suprapubic wound. The object of the gauze is to abort any leakage which might take place during the first few days. It may not be necessary, yet it is a safeguard against infection by extravasated urine and aids in holding the tube in place. The tube for permanent drainage is not provided with a shoulder. It should be long enough to extend at least one centimetre into the bladder. The bladder end should be slightly bulbous, and the tube should be curved or straight, according to the direction of the sinus. The second piece rests on the abdominal wall. The apparatus for immediate drainage will work perfectly for eight days ; at this time the sinus leading into the bladder will be lined by firm granulations, the bladder will be fixed by adhesion, and the wound will be in an excellent condition for the introduction of the tube for permanent drainage. For two or three days, until the sinus has contracted about the new tube, some leakage will take place, but most of the urine will be collected in the rubber bag.

# PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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## THE BACTERIOLOGY OF INFANTILE DIARRHŒA.

*The British Medical Journal* for September 12, 1896, contains an abstract of a report by Allan Macfadyen, on the bacteriology of infantile diarrhœa.

After pointing out the difficulty experienced in investigating the nature of bacteria present in the upper portion of the alimentary canal, owing to the predominance of putrefactive bacteria in the colon, the writer considers the subject under three heads:

- (1) The bacteria present in health and in the course of the disease.
- (2) The easily-decomposed food—milk.
- (3) The susceptible organism of the child, predisposing to such complaints.

Escherich found that in the milk fæces two organisms predominated, viz., the bacterium coli commune and the bacterium lactis ærogenes. They especially attack the milk sugar, and the chief products of their action are acetic and lactic acid, and  $\text{CO}_2$  and H. gas. The process is a fermentative and not a putrefactive one. The results agree with what we know of the action of bacteria in the adult's small intestine. The investigations of Macfadyen, Nencki, and Sieber show that the bacteria of the small intestine primarily decompose carbohydrates, with the result that the contents of the small intestine have an acid reaction. This acidity will be a main factor in preventing the development of a putrefactive decomposition under normal conditions.

Escherich did not find in cases of infantile diarrhœa any organisms that might be called specific. He supposes that in the upper intestine a main factor in the causation of diarrhœa is abnormal acid formation by



bacteria, and that in the lower intestine the decomposition is of proteid matter.

The action of the bacteria does not take place through a direct invasion of the organism, but through the absorption of poisons formed by them. It is probably through their action on the milk, and not on the body, that the bacteria acquire their dangerous properties. In the child, toxic effects may result from substances that produce little or no effect on the adult.

Baginsky examined forty-three cases of summer diarrhoea, but did not find any organisms of a specific character. The general conclusion he comes to is that several kinds of saprophytic bacteria may produce the disease under favorable conditions. The severe cases of diarrhoea seem to be due to poisons developed by bacteria from the proteid constituents of the food. Booker isolated, altogether, thirty-three forms of bacteria from cases of infantile diarrhoea. There was great variety, but no constancy in the types found.

Jeffries and Baginsky were not able to confirm Lesage's statement that the green diarrhoea of children is associated with the presence of a specific organism. The determining factor is the milk and the decomposition products arising from it. The researches of Vaughan in this connection are of first-rate importance, and deserve careful consideration and confirmation. Vaughan has isolated from poisonous milk a crystalline body, called by him tyrotoxicon. The symptoms of tyrotoxicon poisoning resemble those of cholera infantum. Vaughan also obtained toxic bodies from cultures of Booker's bacteria, which produced vomiting, purging, and sometimes death in dogs. This observer believes that there are many bacteria which may produce diarrhoea in children by an action on the milk inside or outside the body.

There can be little doubt that in hot weather the milk undergoes a profounder decomposition than the ordinary lactic acid fermentation, by which its proteid constituents are attacked. These changes are due to bacteria, and may occur without visible alteration in the appearance of the milk. The milk, therefore, furnishes a more fruitful field for investigation than the intestine. If the living agents at work in the milk were accurately known, we would be in a position to determine the best methods for their extinction, and in such diseases it is their prevention that should be the main object of our investigation. Flügge emphasizes the fact that milk sterilized by the usual methods is not without danger. A number of resistant forms are not destroyed, and three were found to produce a profuse, and sometimes fatal, diarrhoea in young dogs.

Though our knowledge is imperfect regarding the specific agents at work, everything points to this disease being due to changes produced by

bacteria in the milk. It remains for future research to determine more accurately the nature of the toxic products, and of the bacteria that produce them.

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TUBERCULOUS ABSCESS OF THE THYMUS, WITH THROMBOSIS OF THE LEFT INNOMINATE VEIN.

Carpenter, of London, reports a case of this somewhat rare condition in *Pædiatrics* (July 15, 1896).

The patient, a child of two years, whose father had recently died of phthisis, had been ill for the last year; had cough and diarrhoea. When seen by the writer the plump, swollen condition of its face contrasted strikingly with the emaciation of the body.

The following abnormalities were noticed when a physical examination was made:

*Lungs.* On the right side in front there was dullness as far as the third rib, and behind it was limited to the area of the chest corresponding to the upper lobe, as also in the axilla.

Over the dull area there was a vesicular murmur, but occasionally the expiratory murmur was rather hollow, and tubular breathing could be detected when a laryngeal noise was made; it was then heard with expiration, and was quite loud.

On the left side in front, over the second interspace, there was a small patch of tubular breathing, but no dullness. The sternum from the level of the third rib upwards was dull—to the right it merged into the lung dullness, below it ran into the cardiac dullness, and to the left it slightly encroached beyond the margin of the sternum.

*Autopsy.* In the anterior mediastinum, on removing the sternum, a fluctuating tumor was seen. Its surface was non-adherent to the sternum, and smooth. It overlapped the base of the heart and the great vessels, and was continued into the pericardium. Its extreme lower limit was on a level with the third rib, its upper the top of the sternum, and its diameter about that of a tangerine orange. No trace of the thymus could be found. On opening the pericardium a small quantity of serum escaped, in which floated small flakes of lymph, and both the visceral and parietal layers of the pericardium gave evidence of an early pericarditis. The aorta, pulmonary artery, and superior vena cava were seen to disappear behind the tumor, and on cutting into this pus escaped. When this was evacuated a cheesy membranous lining came in view, and when this was stripped the underlying tissue was found to be smooth and of a rather bright venous blood color, and just like the cavities found in the right apex. Across the abscess cavity passed the obliterated left innominate vein; the right innominate vein was outside the sac. The arteries were situated behind the abscess, and were unaffected.

## FORMIC ALDEHYDE IN THE TREATMENT OF RINGWORM OF THE SCALP.

In the *British Medical Journal* (Sept. 12, 1896), Salter, of Guy's Hospital, directs attention to the excellent results obtained in the treatment of ringworm of the scalp by formalin, or formic aldehyde. This substance has intensely bactericidal properties and also remarkable powers of penetration. It is destructive to bacteria when used in solution, and also when vaporized. The failure of the ordinary remedies is attributed to the fact that the fungus is so encased and protected by the sebaceous secretion and the fibrilla of the hair that the germicides do not come in contact with it.

In the case of formalin, pure cultures are killed by a short exposure merely to the vapor. With hairs dipped for five minutes in 40 per cent. formalin, and kept under the fluid by manipulation with a needle, no subsequent growth could ever be obtained. Similar treatment for an equal time with carbolic acid, 1 in 20 (aqueous), glyc. acid. carbol. B.P., aqueous solutions of hydrarg. perchlor., 1 in 1,000, 1 in 200, 1 in 50, and alcoholic solutions, 1 in 250, seldom or never had the slightest effect in sterilizing the hair, as evidenced by successful culture.

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FORMALDEHYDE CLINICALLY.

Experience in actual practice has amply justified the expectations raised by such experimental results. Dr. Perry kindly allowed me to treat forty cases of ringworm of the scalp from his out-patient department at Guy's Hospital. The preparation most used was Schering's "formalin" in full 40 per cent. strength, though in the later cases formaldehyde of English manufacture was employed. The fluid was vigorously rubbed in with a largeish brush or mop for ten minutes, the hair having been shaved round the margin of the patches. The application was repeated every other day on four occasions and then entirely discontinued. In some patients the head was painted every day for four successive days. Of the forty cases, only five required repainting from non-eradication of the disease, and in these the fault lay not with the remedy, but in the fact that, owing to the struggles of the child, no proper application could be made. The ages of the children treated ranged from 4 to 12, and the extent of the disease varied from a small strictly localized patch to areas which were practically co-extensive with the whole scalp. Microscopical examination was always made before commencing the treatment, and the actual presence of the trichophyton verified, whilst before pronouncing any case cured microscopical examination was again made. In thirty-eight of the cases the fungus presented the characters of trichophyton microsporon.



## PICRIC ACID IN THE TREATMENT OF SUPERFICIAL BURNS AND SCALDS.

In a note to the *British Medical Journal* (September 12, 1896), D'Arcy Power testifies to the excellence of picric acid in solution as a dressing for burns and scalds. The method is well known in France, where it has been extensively used.

The solution of picric acid is made by dissolving a drachm and a half of picric acid in 3 ounces of alcohol, which is then diluted with two pints of distilled water, or, more accurately : Picric acid, 5 g. ; alcohol, 80 g. ; dissolve ; add 1,000 g. of distilled water. This is a saturated solution of picric acid.

The clothing over the injured part should be gently removed, and the burnt or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton-wool soaked in the lotion. Blisters should be pricked, and the serum should be allowed to escape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton-wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries, and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly well moistened with the picric acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

The great advantages of this method of treatment are : First, that the picric acid seems to deaden the sense of pain ; and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

I have used this method for more than a year in hospital practice, both amongst out-patients and in-patients, and I have every reason to be thoroughly satisfied with the results I have obtained. It is not an ideal method, for it stains the clothes and discolors the hands of the surgeon, but it is a great improvement upon anything else I know of.

# HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

WILLIAM OLDRIGHT, M.A., M.D. Tor.,

Professor of Hygiene in the University of Toronto ; Surgeon to St. Michael's Hospital

AND

E. HERBERT ADAMS, M.D., D.D.S.

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## SEATS FOR EMPLOYEES.

The New Hampshire Legislature has enacted a law compelling every person, firm, or corporation employing females in any manufacturing, mechanical, or mercantile establishment in the state to provide suitable seats for the use of females so employed, and to permit the use of such seats by them when they are not necessarily engaged in the active duties for which they are employed. A fine of not less than \$10 or more than \$30 for each offence is the penalty prescribed for a violation of the law.—*Boston Medical and Surgical Journal.*

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## NEW HEALTH LAWS DESIRED IN INDIANA.

Dr. J. N. Hurty, secretary of the State Board of Health, says the *Journal of the American Medical Association*, has sent out a letter to the doctors of the state, outlining a proposition of the board to bring about at the next session of the legislature the enactment of a new health law, the present one being considered inadequate. It is proposed to have a State Board of seven members appointed by the Governor, with no salaries attached except for the commissioner chosen by the board, who shall be experienced in sanitary matters, chemistry, and bacteriology. A sanitary laboratory shall be established where all necessary sanitary analysis and bacteriologic examinations and all health work may be done for the people without charge. A modern health board without a sanitary laboratory in charge of skilled and learned specialists would be almost helpless. County health boards shall consist of two physicians and a lawyer or business man, appointed by the commissioners. One of the physicians to be made secretary and county health officer. Secretary to be paid \$10 a year for each 1,000 of population, except in counties of over 100,000. The

other two members to receive no salary. Expenses to be paid by the county. Duties and powers to be carefully defined.

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#### METEOROLOGY AND HEALTH.

The meetings of the Newcastle Congress maintained their interest up till the end. An address of special value was delivered by Mr. Dines, Fellow of the Royal Meteorological Society, on the various causes that produce climate, and the influence which it exercises on health and the average length of life. This is a study of great practical importance, to which not so much attention has been given as it deserves; and it will be well if Mr. Dines' paper leads to a more careful consideration of the whole subject in its relation to sanitary science and practice. In recent years the science of meteorology has made wonderful advance, and we know a vast deal more than our fathers and grandfathers did about the atmospheric environment in which we live, and the changes that take place therein. But the relation of these to health is still a comparatively untrodden field. Climate and weather, in their effect upon habit and the conditions of life, and upon the preservation of the body against disease, have not at all been studied as they might be; for we are satisfied that an adequate study of these important factors, extending over a sufficient length of time, and fairly comprehensive as regards geographical position and topographical features, will yet yield results of the highest value. Earl Percy, the president of the Congress, contributed to the discussion that followed Mr. Dines' address the curious fact that the greater the rainfall of a district the greater would be the amount of drunkenness in it; and if this observation be substantiated by a sufficient number of instances, it would be interesting to trace the relation between cause and effect. Much yet remains to be done in the direction of collecting facts, and of observing their bearing on the extremely complicated problem of the maintenance of health.—*Sanitary Record.*

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#### A NATIONAL QUARANTINE AND A NATIONAL DEPARTMENT OF PUBLIC HEALTH.

The Supervising Surgeon-General of the Marine Hospital Service, Walter Wyman, M.D., in his annual report for the fiscal year 1895, invites attention to the fact that there appears to be a growing sentiment in several sections of the United States for the undivided control of all the quarantine service of the national government. According to this report, since the passage of the act of February 15, 1893, the subject of turning over the local quarantines to the national government has been favorably dis-



cussed by the authorities of Portland (Me.), Savannah, Charleston, and Mobile. Two states, viz., Pennsylvania and North Carolina, have practically surrendered their quarantine functions to the government. A bill was introduced into the last legislature of Florida, turning over the quarantine system of the state to the general government, and many communications were printed in certain Florida papers favoring this change. The leading daily journals of Texas have advocated a like change with regard to the quarantine of their state, and, as previously stated, the national government now exercises quarantine control over the whole of the Pacific coast, the Gulf coast east of Louisiana to Mobile Bay, in Georgia, North Carolina, Virginia, Delaware, and Pennsylvania.

The Marine Hospital Service, possessing, as it does, much of the machinery for carrying on such a work, should be elevated to the dignity of a national department of public health, and the chief of that bureau should be made a cabinet officer. Whatever is necessary to the work not already possessed by the department should be added thereto in the way of laboratories, etc., and its functions should be enlarged to include, in addition to quarantine, the examination of foods and drugs, earth, air, water, etc., all of which affect the health of the public. Such a department could do much to aid the physician and pharmacist in controlling the patent medicine evil, by teaching the public how to avoid the cause of disease, among which the promiscuous dosing with secret nostrums is an important factor.

Quarantine between localities affected by disease and healthy localities is an effectual method of preventing the spread of local maladies of a contagious nature, and is just as essential as it is to protect the country from abroad. This work is usually left to state and city boards of health, but in a number of instances appeal has been made by the local authorities to the Marine Hospital Bureau for aid in suppressing smallpox, cholera, and yellow fever. Under the Act of Congress, approved February 15, 1893, interstate quarantine regulations have been promulgated to prevent the spread from one state to another of cholera, yellow fever, smallpox, typhus fever, leprosy, and plague, and when state or local authorities fail to enforce them the Marine Hospital Service will do so.

But prevention is better than cure, and here is where a department of public health could be of the greatest value to the American people. Adulteration and fraud are rampant in the land in regard to what we eat and drink, and what we take as medicine. Efforts to protect the public in the way of food and dairy laws have been enacted in several of the states, and commissions appointed to carry their provisions into effect. We all know with what unfortunate results these measures have been met. Political scandal and blackmail too often follow this class of legislation.

Not until the entire subject can be taken out of politics and placed in the hands of some responsible department of the government which cannot be influenced for furthering the schemes of wire-pullers and lobbyists may we expect relief from robbery by fraudulent dealers in the commodities referred to.—*Ex.*

## Editorials.

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### MEDICAL EDUCATION IN GREAT BRITAIN.

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THE standard of medical education in Great Britain is regulated by the General Medical Council, which, in some respects, is similar to the Ontario Medical Council, but really possesses much less power than the latter body. The British Council (*British Medical Journal*, September 5) "lays down the minimum standard of school knowledge which must be possessed by a student before he commences his professional study, and the minimum number of years during which such study shall be carried on, and at the same time enumerates the examining bodies, the possession of whose degrees and diplomas shall entitle the holder to be registered as a medical practitioner. . . . So long as the various universities and medical corporations comply with the general instructions of the General Medical Council they are permitted to arrange their examinations pretty much as they like, and to grant to their successful candidates such titles, degrees, and diplomas as their charters may prescribe."

When our council was established in Ontario the various universities in the province were deprived of the right to confer a degree which carried with it a license to practise. The degree of M.D., or M.B., is therefore purely honorary, as its holder must go before the central examining board and pass the examination before he obtains a license. The universities and various medical corporations in Great Britain united in their protests against any curtailment of their powers when certain proposed amendments to the Medical Act were being contemplated and discussed a few years ago ; and, as a consequence, the General Medical Council, at that time established, was only empowered to regulate the standards as described above. It is generally conceded by outsiders who have studied our regulations in Ontario that we have an admirable system, and a standard of medical education that is very creditable to our young country.

In the same issue of the *British Medical Journal* we have some interesting particulars as to the cost of a medical course in London, from which we extract the following estimate. The expenses may be itemized as follows :



|  |                 |        |
|--|-----------------|--------|
| Composition fee for school and hospital.....       | \$570 to \$ 780 |        |
| Diploma fees (conjoint board).....                 | 180             | 180    |
| Special fees, laboratory, "parts," etc.....        | 45              | 50     |
| Clubs.....   | 25              | 40     |
| Instruments and books.....                         | 100             | 100    |
| Five years of forty weeks at \$7.50 to \$10 a week | 1500            | 2000   |
| Five years' clothing.....                          | 500             | 500    |
| Total.....   | \$2920          | \$3650 |

To this *modest* total, the *Journal* says, must be added the expenses of at least two vacations a year, with the necessary railway fares. To our Canadian students who examine these rather startling figures it will be some consolation to know that a good medical education can be obtained at home at a much smaller cost.

#### ANTITOXIN IN LARYNGEAL DIPHTHERIA.

WE publish in this issue a communication from Dr. Northrup, on behalf of the American Pædiatric Society, respecting the treatment of laryngeal diphtheria by antitoxin, which has been forwarded to us by Dr. A. D. Blackader, of Montreal. The results of the antitoxin treatment of diphtheria, so far as published results show, have been decidedly satisfactory; but the information thus far furnished has not been sufficiently definite to enable us to lay down any fixed rules on the subject which will be generally accepted by the profession. A goodly number of physicians of Toronto have given this treatment a fair trial, and the results have been not altogether favorable. Some are more than satisfied; some are doubtful; a few consider it useless—if not worse than useless.

In using the antitoxin it is of the utmost importance that the greatest possible precautions should be taken to avoid the selection of serum which is not absolutely above suspicion, and, at the same time, faulty methods in its use. We are glad to know that reliable preparations of the serum may now be easily obtained. We have been informed by many physicians in various parts of Ontario that they have used the serum with most gratifying success; but we are sorry to say, at the same time, that they have not, as a general rule, given to the profession generally any details as to their results. We hope that all physicians interested in the subject will send their records to Dr. Northrup.

## THE INDISCRIMINATE USE OF COCAINE.

THE topical use of cocaine is attended with a degree of danger at all times. Serious consequences more frequently follow its use in the deep urethra, nares, or the gums, than when injected into the body or at the extremities. At no time is a solution of high percentage necessary, and the percentage should always be known. Many dentists use cocaine in a very reckless manner, and take no consideration of dosage whatever. They, as a rule, take no account of its constitutional effect, only thinking of its local action. Three cases of cocaine poisoning having come under our observation within the past five months in the service of two prominent dentists prompts the note of warning here given. In one case, on enquiry, the percentage was not known—possibly ten or twenty, he said. He just took some crystals and added some water, and injected a few drops into the upper gum over a canine tooth; poisonous symptoms were noticeable in less than three minutes; the collapse was severe, and only by energetic measures, freely used, was the patient's life saved. In both of the other cases ten per cent. solution was used, but the degree of poisoning was not alarming in one instance, while in the other it was exceedingly so. A very prominent dentist in the city told us that he frequently applies the pure crystal to the exposed nerve. We feel justified in calling attention to this very dangerous method of using a powerful poison. None of the active alkaloids should be used except in a solution of known strength, and then not in any indefinite quantity.

## SHANNON v. AIKINS.

WE desire to offer our hearty congratulations to Dr. H. Wilberforce Aikins, of Toronto, on the happy issue of the iniquitous suit which was brought against him in the Assize Court, October 14. The doctor commenced his treatment of plaintiff's infant daughter in April of last year. The patient had a virulent form of ophthalmia, from which she lost the sight of one eye, and had impaired vision in the other. It was one of those deplorable cases, which are quite too common, where the most vigorous and skilful treatment is frequently of no avail. The defendant described his plan and treatment, which medical witnesses on both sides declared correct. The evidence, apart from this, referred altogether to facts as to treatment, *i.e.*, Did the defendant neglect his patient in any way? The case went to the jury, and a verdict was given in favor of the defendant. This means that in the opinion of the jury there was no evidence to show that he was negligent or unskilful.

Dr. Aikins is well known as a thoroughly competent physician and

surgeon. He happens at the same time to be exceptionally careful and attentive to all patients who come under his care. It seems the hardest sort of luck that such a man should be subjected to so much annoyance and worry absolutely without cause. It unfortunately happens in a large proportion of such actions at law, that, as in this instance, the doctor has been put to considerable expense although he has won the verdict. It is generally conceded that in such vexatious cases the plaintiff should be compelled to give security for costs before entering action; but our governing powers are so *sensitive* about the rights of the "poor man," and the members of our profession are so stupid about their individual rights where the lofty game of politics is concerned, that the blessed poor man always wins. In the eyes of the law the doctor is never poor, and, therefore, he is never worthy of much consideration when there are any competitors. This, in a way, should be satisfactory to the doctor; but it doesn't always make him feel rich because he is technically not poor.

These so-called poor men have certain qualities of statesmanship which are highly appreciated by our lawgivers in this "free" country. They form brotherhoods with high aims in the interest of "humanity"—which means their dear selves. They go to our legislators generally shortly before an election, and make their demands. They get their answer: We are in your hands, you are the bone and sinew—you are the people of this country. The doctors also form associations—they meet and pass great, strong resolutions—they disperse with a glow of enthusiasm, they feel that it's all right now. The secretary, in accordance with his instructions, sends the resolutions to the legislators, who graciously acknowledge the receipt of the same. In due course of time the election comes on. The country is in danger—at least, generally. The doctors rise equal to the occasion, and become active and influential politicians. During the delirium of their fever the rights of physicians are forgotten amidst the more pressing interests of Gritism and Toryism. After the elections the doctors in time get down to the plains of routine work in a somewhat dazed condition, and in their bewilderment wonder why the profession always "gets left"—while the legislators quietly smile.

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#### SARNIA GENERAL HOSPITAL.

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A LITTLE more than a year ago the corner-stone of a new hospital was laid in the flourishing town of Sarnia. The structure is now completed, and was formally opened by the Lieutenant-Governor of Ontario, Saturday, October 3. The hospital, which is one of the best equipped institutions of the kind in Canada, contains forty beds, and cost



about twenty-five thousand dollars. Among those present at the opening ceremonies, in addition to Lieutenant-Governor Kirkpatrick, were Dr. Charles O'Reilly, Superintendent of the Toronto General Hospital ; Dr. Bucke, Superintendent of the London Asylum for the Insane ; Dr. Welford, of Woodstock ; Dr. Lindsay, of Port Huron ; Dr. D. Maclean, of Detroit ; Captain Arthur Kirkpatrick, private secretary to His Honor ; and many physicians and laymen of Sarnia and the surrounding country.

Shortly after the arrival of the Lieutenant-Governor and his party luncheon was served, after which the building was carefully inspected. Dr. Maclean, the secretary of the Hospital Board, then read an address of welcome to the Lieutenant Governor, which closed with a request to His Honor to declare the Sarnia General Hospital open for the reception of patients. The Governor graciously complied, and, at the same time, delivered an appropriate address, in which he extended his hearty congratulations to Dr. A. S. Fraser, the chairman of the Hospital Board, and all others who had assisted in the erection of such a magnificent edifice, with its superb equipments, for the benefit of suffering humanity.

Dr. Fraser then called on a number of others, who delivered congratulatory speeches. Dr. Bucke, of London, referred to the fact that he was, in his younger days, a practising physician in Sarnia, and at that time did not expect to see such a building erected there. He said he had visited a great many hospitals, but had never seen one as perfect in equipment and appliances as the one opened on that day. People point to the advancement made in science, engineering works, railways, telegraphs, telephones; but, to his mind, none of these can compare with the great advancement made in philanthropy, the love of one for another, and the care for friends and neighbors, whether poor or rich.

Dr. Charles O'Reilly, of Toronto, complimented the committee on the great success of the opening ceremonies, and expressed himself as much pleased with the internal arrangements and the sanitary condition of the new hospital. He reminded the audience that in 1896 we are celebrating the hundredth anniversary of Dr. Jenner's crucial experiment in inoculation with smallpox, and also the fiftieth anniversary of Dr. Morton's first application of ether to surgery in Boston. By a happy coincidence the Sarnia General Hospital is opened this year, and in the future its centennial and semi-centennial celebrations will be held during the same years as similar celebrations in honor of the discovery of vaccination, and the first administration of ether for surgical purposes. He then made some humorous remarks regarding self-sacrificing physicians, who did all in their power to prevent disease—much to their own *financial* disadvantage. In conclusion, he congratulated the citizens of Sarnia upon having such a grand hospital, with magnificent equipments, and all facilities for asepticism and

antisepticism in the practice of both medicine and surgery, with all the possibilities for good work in the direction of preventive medicine and conservative surgery.

Many others—both physicians and laymen—gave interesting addresses, after which the doors of the hospital were thrown open to the public for a general inspection of the premises.

## Meetings of Medical Societies.

### TORONTO MEDICAL SOCIETY.

**R**EGULAR meeting held October 8, 1896, the President, Dr. W. J. Wilson, in the chair. Minutes read and adopted.

Present: Drs. J. N. E. Brown, W. Oldright, J. E. Graham, A. Primrose, R. L. Langstaff, H. H. Oldright, Fletcher, Forfar, H. Hamilton, Rudolph, Webster, Russell, F. Oakley, T. MacMahon, G. A. Peters, H. Anderson, B. McKenzie, R. Reeve, Carveth, Adams, A. McPhedran, F. Starr, J. Hunter, Weir, Graef, and Galloway.

Dr. Oldright presented pus tubes, ovaries, and a small fibroma which he had removed the day of the meeting.

Dr. Primrose showed some calculi he had removed from a child three years old. Probably they are oxylate of lime; he had not examined them yet. The boy presented the usual symptoms; he adopted the method of continuous hydrostatic pressure through a catheter passed into the bladder and connected with an irrigator two feet above the patient. It worked admirably. It was not inflated until the abdominal incision was made. This appliance is better than a syringe, as it makes an equable pressure; if the child vomits it gives. Further, after the incision it floats up the edges of the bladder into the wound. Warm boric solution was the solution used.

#### STENOSIS OF LACHRYMAL DUCTS.

Dr. Reeve presented a case of stenosis of the lachrymal ducts and extensive dilation of the lachrymal sacs. The sac on the right side was double. The probes which he introduced before the members were four mm. in diameter. Some members of the profession considered this form of treatment brutal, preferring to use small tubes. One of the probes was aluminum, the other was silver. The aluminum may be passed with greater ease to the patient than the other. Small probes only produce temporary results. There is a thickened ledge. The main point in the treatment is to break down this constricting band, which large probes will do. The epiphora in this case began seven years ago, and for seven years



there was a condition of mucocele. For a year a foetid discharge has passed through; 1-3000 perchloride was used to flush out the cavity.

Dr. Anderson asked if there was danger of recurrence.

Dr. Reeve said there was always that tendency. He had used the word cure only in a sense. Some cases required a probe passed occasionally afterwards.

#### TREATMENT OF ADVANCED TUBERCULAR DISEASE OF THE HIP.

This was the title of a paper by A. Primrose. Opinion varied as to amputation in these very bad hip cases. He pointed out that each case must be carefully weighed. In some cases the only hope of saving the patient's life was by amputating. The history of a case was then given which illustrated the sort of case in which amputation should be performed. The first treatment was by fixation of the joint. The disease progressing, incision was made, and an attempt to remove the diseased parts. This failing, the same operation was repeated. This also failed, and as the patient grew worse and showed marked signs of amyloid disease and a continued destruction of the tissues in the neighborhood of the joint, including the acetabulum, amputation was decided upon, although some of the consulting physicians were opposed to this procedure. The essayist then stated that the mortality in these cases was not nearly so high as the text-books lead us to suppose. From statistics he had been able to gather, he found that the rate was about ten per cent. A case was then described in which, after a successful operation, the patient subsequently died from tubercular meningitis. It was a question whether the operation precipitated this attack. The technique of the operation was then described. One of the greatest difficulties to contend with was the hæmorrhage. In the cases described digital compression was used. He pointed out how the tourniquet acted in an unfavorable way in producing subsequent hæmorrhage.

Dr. McKenzie pointed out how difficult it was to say when one should operate. When did this advanced stage begin? He alluded to the improvement of other tuberculous lesions in the system after the removal of a diseased joint. Cases were reported in evidence of this statement. There was a difference of opinion among surgeons as to the propriety of operating by amputation. So good an authority as Watson Cheyne, in 1895, said that he had never seen a case where amputation was necessary. Marsh had performed only fourteen, with a mortality of fifty per cent. That operator had described cases where operation was recommended, but where recovery took place. The speaker reported three cases he had seen where tubercular meningitis had ensued. He thought Dr. Primrose's case was not accelerated by the amputation.

Dr. McPhedran pointed out that when tubercular disease was discovered in one part of the body, it was very often present in some other part. An explanation of the tubercular meningitis following the operation might be given; the poison might be absorbed from the freshly cut surface.

Dr. Hunter reported a case he had just seen. The patient was a young woman with a tubercular family history. Both lungs were involved as well as the larynx. The trouble manifesting itself in the toes, she had consulted him as to the advisability of having them amputated. He would like an opinion from the reader of the paper.

Dr. J. E. Graham asked if patients suffering from amyloid disease following operation by amputation recovered. He asked what evidence there was in the cases reported that this condition was improved.

Dr. Primrose replied that the liver and spleen, which were much enlarged, were diminished in size, as well as a disappearance of other symptoms. In Dr. Hunter's case, operation, perhaps, would be inadvisable. In such cases the wound would not heal kindly.

#### STRICTURE OF URETHRA-SACculated BLADDER.

Dr. H. B. Anderson presented some pathological specimens. He said that the patient from whom they were taken was a male, aged seventy seven. Had had gonorrhœa when young. This was followed by stricture of the urethra. This stricture gave him very much trouble and necessitated external urethrotomy, and afterward frequent dilatation. Subsequent enlargement of the prostate led to the use of a catheter. This was followed by a purulent cystitis, which lasted for some years. Symptoms of calculus appeared and the other symptoms grew worse. The temperature remained normal. Was operated on by Dr. Teskey for stone in the bladder, and two large phosphatic calculi removed. The case ran on for some two weeks, when the patient died. Autopsy showed a stricture in front of the membranous portion of the urethra. Behind this the urethra was sacculated. The mucous membrane at this point was discolored and showed signs of chronic inflammation. The bladder was markedly thickened in all its coats, and presented a sacculated condition. In two places the mucous membrane had protruded through the muscular coat and sacculated. In one there had been an abscess which had burst through into the peritoneum. It had not set up any inflammatory reaction in the peritoneum, the patient having probably died before time enough had elapsed for that to take place. Phosphatic flakes were found in these saccules. The contents of the abscess showed the presence of streptococci and another bacillus which he had not identified, but which probably was the colon bacillus. The ureters were dilated and showed signs of

inflammatory change. The pelves of the kidneys were dilated with a purulent fluid, and there was beginning atrophy of the parenchyma of the kidney substance.

#### MITRAL DIASTOLIC MURMUR.

Dr. J. E. Graham reported a case. The patient, a dentist, consulted him for heart trouble. He complained of being annoyed by a peculiar sound emanating from that organ, particularly when he bent over his work. It was so loud that his patients noticed it. At times it could be heard across the table at which he was eating. An examination in the recumbent position revealed what appeared to be a mitral diastolic murmur, not very loud. Then the patient sat up, leaned to the left, and the murmur could be heard two or three feet away. The murmur was loudest over the apex. A well-marked thrill could be detected. The quality of the sound was disagreeably musical.

Dr. Reeve said in those cases where the carotid ruptures in the sinus behind the apex of the orbit the patient at first notices a musical note high in pitch. After a time this is succeeded by a loud noise and other signs of aneurismal varix. As the cases improve the noise subsides and the musical note returns.

Dr. Rudolph reported having seen a case where the patient had an aortic systolic murmur which could be heard six feet away. It had come on after a severe strain. An explanation had been offered that it was due to a doubling up of one of the cusps of the valve.



## Book Reviews.

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**PRESCRIBERS' PHARMACOPŒIA.** A synopsis of the more recent remedies, official and unofficial, with a therapeutic index. Third edition. Kemp & Co., Ltd., Wholesale and Manufacturing Chemists, Bombay. London : 84 Leadenhall street, E.C., 1896.

Messrs. Kemp & Co. have issued a most useful book. The matter contained therein is of the greatest service to the physician when prescribing. Many a time a prescription would have its usefulness enhanced by the addition of some ingredient whose properties or preparation have escaped our memory. Any aid to our memory in this direction is of great use to our patients. The references are brief, but up to date.

The book also contains a chapter on urinary testing which is in itself of more than ordinary value, since it describes the preparation of many of the reagents used. A most voluminous index concludes the volume. The price is not stated, but no doubt may be found out by communicating with the publishers.

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**A MANUAL OF VENEREAL DISEASES.** By James R. Hayden, M.D., Chief of Venereal Clinic, College of Physicians and Surgeons, New York ; Professor of Genito-Urinary and Venereal Diseases in the medical department of the University of Vermont, etc. In one 12mo. volume of 263 pages, with 47 engravings. Cloth, \$1.50. Lea Brothers & Co., Publishers, Philadelphia and New York, 1896.

The first part of this work treats of gonorrhœa and its complications, every part of it being well up to date. Most attention is paid to stricture of the urethra, its diagnosis and treatment, the author advocating urethrotomy where the usual methods of dilatation have not met with success. He uses the internal method where the stricture is within four or five inches of the meatus, and the external where it is beyond this, or where vesical drainage is necessary for chronic cystitis and urethritis.

The cutting in the internal operation is done by one of the ordinary urethrotomes, after washing out the bladder and urethra with boric acid solutions, and he keeps the stricture open by dilating every second or third day with a steel sound while necessary.

The patient is put in the lithotomy position for external urethrotomy, and, after the usual preliminary preparations, the author passes either a Gouley's catheter or a Wheelhouse's staff into the bladder, or as far as the stricture will permit, and cuts down on this in the median line, just above the stricture. The stricture is then divided, and a Teale's gorget passed into the bladder. By using a steel sound the operator ascertains that there is no further obstruction, and after putting in a perineal drainage tube he stitches up the wound. Dilatation will also be necessary here for some time after the operation.

The articles on chancroid and syphilis are reprints of the ones in Culver and Hayden's Manual of 1892, and, therefore, need no remarks.

The book is well illustrated, and in a compact and readable form.

**A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY.** Comprising all organic and inorganic drugs which are and have been official in the United States Pharmacopœia, together with important allied species and useful synthetics. For students of medicine, druggists, pharmacists, and physicians. By David M. R. Culbreth, M.D., Professor of Botany, *Materia Medica*, and Pharmacognosy in the Maryland College of Pharmacy, Baltimore. In one handsome octavo volume of 812 pages, with 445 illustrations. Cloth, \$4 75. Lea Brothers & Co., Publishers, Philadelphia and New York, 1896.

The above work is most comprehensive in its scope, and written in an easy and concise style. It is essentially a student's book, and the arrangement makes it superior to any of the existing *materia medicas* known to the writer. There is no unnecessary waste of time in describing drugs—the main points are immediately mentioned, briefly, but thoroughly. The information accompanying each drug embraces its genus, habitat, synonyms—English, French, and German—description, constituents, preparations, and properties. The arrangement of the drug descriptions is made so as to associate “as nearly together as possible those substances, organic and inorganic, which have a common or allied origin, allowing those related next in order to follow in regular sequence.” The metric system is omitted from the text, and the apothecaries system adhered to. This is in accordance with the common usage of to-day in this country, and prevents the necessity of figuring doses and what-not back to the system in vogue. The metric system will one day be adopted; then it will be time to utilize it in constructing our books.

The illustrations are a great credit to the work, and of undoubted value in aiding the text. Botany can be more easily studied from well-illustrated textbooks than from those whose illustrations are infrequent and not true to nature. Their profusion is remarkable, nearly every plant described being accompanied with one or more illustrations.

Part I. of the work embraces 557 pages and twelve tables of recapitulation, which will be found of great aid to the student in reviewing his work before examination. In these tables the natural order, botanic source, official part, habitat, etc., etc., are so clearly tabulated that reviewing is made easy, and yet they could not be utilized for examination purposes without a knowledge of the work from deeper reading.

Part II., embracing thirty pages and recapitulation table, deals with drugs derived from the animal kingdom.

Part III., inorganic drugs from the mineral kingdom.

Part IV. is devoted to organic carbon compounds, and considered under two heads: The fatty and aromatic series.

The synthetic remedies are treated of in Part V. The formulæ are graphically shown where one atom or a group of atoms are exchanged for others, and different substances invariably produced. These compounds are of so universal use at the present time that the addition of this part to the work makes it an exceedingly valuable one.

The appendix embraces such useful information as poisons: treatment and antidotes; a table showing the number of drops in a fluid drachm of various liquids; a table of popular medical abbreviation; Latin used in prescribing and directing, the whole concluding with a voluminous index.

The work will, undoubtedly, be adopted freely as a text-book, and the author should be congratulated on producing a work which so exhaustively deals with the subject in hand. The publishers have, as usual, spared no pains in presenting a well-printed and bound volume.

**FOOD IN HEALTH AND DISEASE.** By L. Burney Yeo, M.D., F.R.C.P., Professor of Therapeutics in King's College, London. New (2nd) edition. In one 22mo. volume of 592 pages, with 4 engravings. Cloth, \$2.50. Lea Brothers & Co., Publishers, Philadelphia and New York, 1896.

## Medical Items.

DR. GEORGE L. MILNE, of Victoria, B.C., Registrar and Secretary of the British Columbia Medical Council, spent a few days in Toronto early in October.

DR. A. H. GARRETT, of Bay street, and Dr. Harris, McCaul street, have returned from London, England, where they spent a very pleasant and profitable four months.

DR. H. P. H. GALLOWAY, formerly of Euclid avenue, Toronto, has gone to New York, where he will spend some months in special work connected with orthopædic surgery.

DR. J. T. DUNCAN, of Toronto, returned from Europe in September and resumed practice. He delivered the opening lecture for the winter session at the Ontario Veterinary College, October 14.

DR. GEOFFREY BOYD, of Bloor street, Toronto, was seriously ill with appendicitis during the summer. A section was made and the appendix removed, October 14. At the time of writing a speedy restoration to perfect health is confidently expected by his medical advisers.

AT the recent meeting of the American Association of Obstetricians and Gynecologists, held in Richmond, Virginia, during the last week in September, Dr. James F. W. Ross, of Toronto, was unanimously elected president. The next meeting will be held at Niagara Falls, in September, 1897.

MR. J. ROSS ROBERTSON, M.P., proprietor of the Toronto *Evening Telegram*, early in October gave two thousand dollars to the Hospital for Sick Children, Toronto. This added to previous gifts makes a total of \$50,000 which he has presented to this institution.

ONTARIO HEALTH OFFICERS' ASSOCIATION.—At the recent meeting of this association, held in September at Niagara, the following officers were elected: President, Dr. C. Sheard, Toronto; vice-presidents, Dr. McCrimmon, Palermo, and Dr. J. J. Cassidy, Toronto; secretary-treasurer, Dr. J. J. Mackenzie, Toronto; council, Dr. Wardlaw, Galt; Dr. Griffin, Brantford; Dr. Coventry, Windsor; Dr. Hutchinson, London; and Dr. Bowman, Berlin.

THE fifteenth annual announcement of the New York Post-Graduate Medical School and Hospital has just been issued. Five hundred and forty-two physicians from all over this continent have attended the courses at the institution during the past year. Recent discoveries have revolutionized medical and surgical methods, and a man whose medical education ended fifteen years ago is not a physician or surgeon within the present meaning of the term. Post-graduate medical instruction is for the purpose of furnishing to these graduates in medicine a means of refreshing their knowledge.

THE NIAGARA DISTRICT MEDICAL ASSOCIATION.—The regular quarterly meeting of the Niagara District Medical Association was held in the Welland House, Welland, October 14, Dr. King, of St. Catharines, in the chair. Dr. Schooley read a paper on "Appendicitis," which was intelligently discussed by Drs. Merritt, King, and Armour. Dr. Merritt read a paper on a case of fracture of the base of the skull. Several other subjects of interest to the profession were discussed at length. The next quarterly meeting of the association.



will be held in the St. Catharines General Hospital on the second Wednesday in January, 1897.

**MEDICAL COUNCIL EXAMINATIONS.**—At the supplementary examinations of the Ontario Medical Council, held in September, the following candidates were successful: Final: Geo. S. Cameron, Petrolia; J. J. Downing, Kingston; W. F. Gallow, Toronto; J. S. Goodfellow, Sudbury; W. S. Harper, Madoc; J. S. Honsberger, Jordan Station; D. Jamieson, Barrie; E. B. Moles, Arnprior; G. B. Mills, Fergus; D. McEwen, St. Elmo; D. C. McKenzie, Durham; J. B. McMurrich, Toronto; E. G. Quesnel, Alfred; A. F. Reynar, Bolton; R. D. Rudolf, Toronto; W. W. Sands, Sunbury; C. H. Sills, Picton; Emma L. Skinner, Davisville; W. H. Taylor, Toronto; Adelaide Turner, Gananoque; E. C. Weeks, Glencoe; T. W. H. Young, Toronto. Primary: W. E. R. Coad, Toronto; C. C. Fissette, Brantford; W. F. Gallow, Toronto; J. S. Honsberger, Jordan Station; W. S. Harper, Madoc; E. A. P. Hardy, Toronto; R. McKenzie, Toronto; T. B. McDonald, Ripley; W. W. Sands, Sunbury; F. L. Thompson, Mitchell; R. W. White, Hamilton.

#### ANTITOXIN COLLECTIVE INVESTIGATION (SECOND)— AMERICAN PÆDIATRIC SOCIETY.

To the Profession:

The American Pædiatric Society are encouraged to ask the co-operation of the profession in a further collective investigation. Laryngeal diphtheria is believed to furnish a crucial test for antitoxin; the present aim is to ascertain (1) what percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment; (2) what percentage of operated cases recover.

The society asks for records of cases of *diphtheria involving the larynx whether operated on or not, occurring in private practice in the United States and Canada, treated with antitoxin*. It is expected that the cases occurring this year will be treated with reliable preparations of the serum, will be treated early, and will be given efficient doses. The second report is designed to be a study of cases occurring between the closing of the first report, May 1st, 1896, and the closing of the present collective investigation, April 1st, 1897.

In order to secure data which shall make the tables complete, circulars containing blanks for ten cases have been printed and are now ready for distribution. It is desired that physicians shall fill out circulars, blanks, as cases occur, not trusting to memory, and shall urge their friends having similar cases to do the same. Circulars can be had by applying to the committee (address below). Several groups of cases in the first investigation arrived too late, and were lost to the report. It is desired that circulars, as soon as filled (ten cases), be returned to the committee. The collection of cases must close at the end of March, 1897.

For extra circulars (blanks), for returning circulars (filled), and for further information, address the chairman of the committee:

October, 1896. W. P. NORTHRUP, M.D.,  
57 East 79th Street, New York, N.Y.

#### THE ACTION OF THE SOCIETY UPON THE FIRST REPORT.

(1) *Dosage*. For a child over two years old the dose of antitoxin should be, in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval, if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units, and not of the amount of serum.

(2) *Quality of antitoxin*. The most concentrated strength of an absolutely reliable preparation.

(3) *Time of administration.* Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

#### OBITUARY.

CHARLES HENRY COOKE, M.D.—Dr. Cooke died at his late residence, Simcoe street, Toronto, October 11, aged fifty-four. His illness lasted only about ten days, and the immediate cause of death was acute nephritis. Dr. Cooke graduated in McGill College in 1866, and for some years thereafter was a surgeon on one of the Allan ocean steamships. He settled in Toronto about the year 1878.

WILLIAM BURNS CHALMERS MURRAY, M.D.—Dr. Murray died at his home, Bryanston, county of Middlesex, October 14, aged forty. He graduated in the universities of Trinity College and Victoria College in 1890, and also received his diploma and license from the College of Physicians and Surgeons in the same year. He at once settled in Bryanston, and soon established a large practice, which he retained up to the time of his last sickness.

LORENZO CLOSSON, M.D.—Dr. Closson, of Toronto, died September 13th, 1896, after a long illness, aged sixty-eight. He was a licentiate of the old Licentiate Board of Upper Canada, 1851, and received the degree of M.D. from the Jefferson Medical College of Philadelphia in 1873. He left a widow and a son and daughter. His son, Dr. John H. Closson, who graduated in 1892, entered into partnership with his father shortly after he received his degree.

JOHN ERIC ERICHSEN, F.R.S., LL.D., Hon. M. Ch. and Hon. F.R.C.S., died at Folkestone, England, September 23, aged seventy-nine. At the time of his death Mr. Erichsen was Emeritus Professor of Surgery and consulting surgeon to University Hospital, and to many other medical charities. He has been president of the Royal College of Surgeons of England, of the Royal Medical and Chirurgical Society, and of the surgical section of the Great International Medical Congress of 1881. He was Surgeon-Extraordinary to the Queen, and has been president of University College, London, since 1887. Mr. Erichsen was one of England's best surgeons—and probably England's best teacher of surgery.

HON. JOHN FERGUSON, M.D., SENATOR.—Canada lost one of her most gifted sons through the death of the Hon. Dr. Ferguson, Senator of the Dominion of Canada, which occurred September 22, 1896. He graduated in Victoria University in 1864, but only practised his profession for about four years. He then engaged in business ventures, and was very successful—soon acquiring wealth and influence. In politics he was an active and strong Conservative, and was for some time a member of the Commons. Afterwards he was made a Senator, and was one of the most influential members of that body. He lived for many years in Welland, but during the last few years was a resident of Toronto. His death was caused by Bright's disease.

HENRY T. RIDLEY, M.D.—Dr. Henry T. Ridley died on the steamer *Bonavista*, September 22nd, in the St. Lawrence river, from apoplexy. He was seized on the evening of the 21st, at 10 p.m., and died the following morning at 5 o'clock. He was born in Belleville in 1827, and was sixty-nine years of age. He was a son of Dr. George L. Ridley, who practised in Belleville for many years. Dr. Ridley received his preliminary education in Upper Canada College, and his medical education at McGill College, where he graduated in 1852. He at once located in Hamilton, where he soon acquired a large practice, which he retained up to the time of his death. He was beloved by his patients and highly respected by his brother practitioners. He was essentially a gentleman of the old school, and a most lovable man in all respects.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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SKIN, HAIR, AND NAIL LESIONS, PRODUCED BY THE  
ACTION OF "X" RAYS.

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By EDMUND E. KING, M.D. TOR., L.R.C.P. LOND.,

Surgeon to St. Michael's Hospital, Physician to House of Providence and Home for Incurables  
Pathologist, Toronto General Hospital.

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THE following case is of sufficient interest to the profession to warrant its being published. The lesions are the result of the "X" rays' action alone. I have eliminated, as far as possible, other causes, and am perfectly satisfied that no extraneous agent was at work.

So much has been printed in the daily press about injuries produced by the "X" rays, that bore on the face of it the stamp of impossibility, that I have watched this case with great care. I have come to the conclusion that no ordinary exposure will produce these effects, and that it is only by long and continuous exposure to very powerful rays that any deleterious effect will be produced.





Photograph of hand, showing shedding of nails and blistering of skin.

My own hands and face have been more or less in contact with the rays since February last, and yet no symptoms have developed. From this fact alone I am satisfied that the exposure must be very long and frequent.

I will relate the history briefly, and as nearly as possible in the patient's own words :

Mr. R. First began to use and experiment with "X" rays in May. Towards the latter part of the month he gave public exhibitions of the subject. He used and was exposed to the rays for an average period



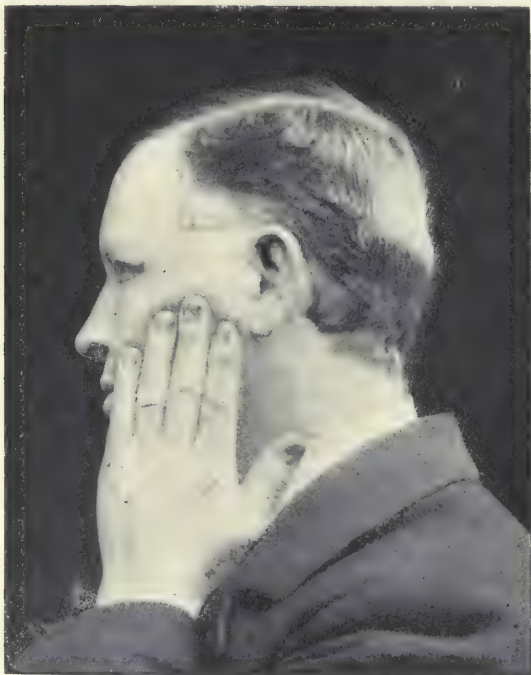
Right side of face, showing normal condition of hair ; double shedding of nails.

of two hours daily during May without symptoms. In June his business increased, and he was exposed to the rays on an average of six hours daily—some days he would be in contact with the rays for fully ten hours—with only momentary cessations.

In July his exposure was about the same as in June. His right side was toward the coil and tube. About the middle of July the right hand began to swell, felt stiff, and large blisters raised on its dorsal aspect. As soon as the blisters raised, great pain was produced. The face was not affected. He treated his hand with picric acid, which allayed the pain,

and had the effect of rendering the hand less susceptible as he continued the use of the apparatus, without new symptoms appearing.

He changed his location, and for some time did not exhibit. During this time the hand recovered, with no bad symptoms remaining. The last week in August he again began to exhibit the rays, and was employed from seven to eight hours daily. This time he placed his left side toward the instrument. In about two weeks he began to notice his lips swelling, with a feeling of tension. His left cheek was swollen, and somewhat tender to touch. A few days after this the left hand began to swell; was



Left side of face, showing loss of hair and eyebrows ; double shedding of nails.

very tender ; skin discolored, and ached in every way like a severe sunburn would. In about ten days it had blistered, and reached the stage shown in the accompanying photograph of the hand. The finger nails were showing marked signs of shedding, which is also apparent in photograph of hand. The eyelids were œdematous, and a conjunctivitis was present in both eyes, although the left was much more intense. The face was affected in about two-thirds of its surface, but only in that portion exposed to the rays. It showed no tendency to blister, although the tension and erythema was very painful.



A shield of metal was now placed between the operator and the tube, but the skin was so sensitive that this was of very little protection. The bombardment was so perceptible and produced so much pain that he gave up the work. In about three weeks the injury was healed, only an amount of tenderness remaining that one would naturally expect.

The present condition is of considerable interest.

*The hands.* On examining the hands, the skin is noticed to be infiltrated, unusually smooth; congested, and on left almost entirely free from hairs; the right not so much so. All of the nails are exfoliating, and, as can be seen in the cuts of the hand resting on the cheek, it appears to be a double exfoliation. I attribute this to the fact that the first injury was done in July, and the second in September, thus destroying the matrix on two separate occasions. The distances between these lines of separation are pretty nearly uniform, which clearly show two distinct injuries.

*The face.* The left side of the face shows an entire absence of hair in the region of the temple and for some distance behind the ear. Comparing this with the right side, one can see just how far this depilatory action has gone. There had been no burning of the skin in this region noticeable when the remainder of the face was affected. The eyebrows are almost gone, only a small portion remaining near the nose. The conjunctiva is still in a subacute state of congestion.

*The moustache* on left side is almost gone, while that of the right side is not so much affected. The whisker on left cheek, chin, and neck is almost gone. The face in these regions is very smooth, and of a much different feeling from that of the other side of the face. He believes his sight is somewhat impaired.

I have presented these photographs to show the matter more clearly, and believe that this is the first authentic case in which "X" rays are shown to produce injuries to the nails and hair.

## A REPORT OF FORTY CASES OF DIPHTHERIA TREATED WITH ANTITOXIN.\*

BY ANDREW B. EADIE, M.D.,

Professor of Physiology in the Ontario Medical College for Women,

AND

T. F. McMAHON, M.D.

Professor of Medicine in the Ontario Medical College for Women; Physician to Toronto General  
Hospital and St. Michael's Hospital.

IN all, we have treated thirty-two cases, of varying degrees of virulence, including one case of laryngeal diphtheria which showed alarming stenosis, and one case of severe nasal diphtheria. It would not prove of interest to enter into details as to the clinical features of each case, and we shall, therefore, content ourselves with a few general observations. In the majority of cases the serum was injected within twenty-four hours of the onset of symptoms, and, of the remainder, but five were injected after forty-eight hours. The dose injected ranged from 500 to 1,000 antitoxic units, and in only three cases was the injection repeated. In three cases an urticarial eruption followed the injection, but no other untoward results were observed.

The diagnosis was confirmed by bacteriological examination by Professor Shuttleworth, except in four cases. In two of these the examination was not made at all, and in the other two, although made, the Klebs-Loeffler bacillus was not found. In these four cases, however, the clinical features were so clearly those of diphtheria that we are satisfied that they were such, and that the swabs in the two cases noted must have been faulty. The syringe was always sterilized, and the procedures carried out with the strictest antiseptic precautions. The injections were made into the subcutaneous tissue of the outer part of the thigh. No case of post-diphtheritic paralysis has yet appeared.

In eighteen of the cases absolutely no other treatment was used than a single injection of the serum.

All the cases recovered. One was a case of laryngeal diphtheria, and was characterized by alarming stenosis, which was partly relieved within two or three hours after using the serum; this patient was quite safe in two days. In another the nostrils were almost plugged with membrane

\* Read before the Toronto Medical Society.

and the foul smell had already appeared, but in forty-eight hours the membrane was separating and the child almost well. In no case did marked improvement fail to appear within forty-eight hours, and, on visiting our patients the second day after the injections, it was a common experience to find them singing and calling for a substantial meal. The temperature sometimes dropped to normal in twenty-four hours, and nearly always within forty-eight hours. In many cases the swelling of the throat subsided and the membrane began to disappear within twenty-four hours, but usually the membrane did not disappear until from forty-eight to seventy-two hours. The results were better when the cases were treated early. Thus in one case, a boy, *æt.* 8, which was seen within a few hours after inception, 1,000 antitoxic units were injected at midnight, and thirteen hours later the membrane had almost entirely disappeared. In two of the cases—the laryngeal and nasal—we should have looked for a probable fatal termination under the old expectant plan of treatment, and it was gratifying to find both out of danger within forty-eight hours. Twelve of the other cases were of the severe pharyngeal type, and would, in our experience, have lasted from one to two weeks under the old treatment. In fact, we feel justified in saying that even the most virulent cases yielded to treatment sooner than the mildest had done, in our experience, under the old methods. In only one case did the membrane fail to disappear before the fourth day.

Cases of great severity have been reported in which the antitoxin, although used early, did not save life. We would explain its failure in one of three ways.

- (1) The disease had existed for some time before detection. Membrane may have been present in the naso-pharynx, where it is not visible.
- (2) The dose of serum injected may have been insufficient.
- (3) The fatal result may have been the result of the action of other toxins than those of diphtheria.

We need not expect the antitoxin to repair the damage already done to the tissues before its injection, but a sufficient dose will usually, if not always, prevent any further destructive action of the toxin upon the organs of the body.

Dr. A. D. Watson reports to us that he has treated seven cases with the serum within the past few months, and that all recovered promptly, although in two cases the larynx was involved. Dr. Hunter also reports a case which is referred to in another part of this paper. Here, then, are, including Dr. Watson's and Dr. Hunter's cases with our own, forty cases of diphtheria, including four laryngeal and one nasal, not only without a death, but followed by recovery so prompt that no reasonable man can attribute it to anything but the antitoxin.



In the early part of this year the New York Pædiatric Society obtained reports from nearly six thousand cases of diphtheria treated with the serum in private practice. This collective report emphasizes the necessity of using the serum at the earliest possible moment after the disease has been recognized. The rate of mortality was 4.9 per cent. in cases where the serum was used on the first day, 7.4 on the second day, 8.8 on the third day, and 20.7 on the fourth day. The results obtained in the treatment of laryngeal diphtheria were certainly most encouraging. Even in those cases where intubation was required in addition to treatment with serum the death rate was greatly reduced.

O'Dwyer, of New York, reports: "In my last one hundred intubations in the first seventy treated without serum the mortality was 73 per cent.; in the last thirty, with serum, the mortality was 33.3 per cent.

McNaughton, of Brooklyn, reports an equally low death rate.

Neff, of New York, reports twenty-seven intubations, with twenty-seven recoveries.

Rosenthal, of Philadelphia, reports eighteen intubations, with sixteen recoveries.

Over 50 per cent. of all the cases of laryngeal diphtheria treated with the serum recovered without intubation, and many others after intubation was done in addition. Formerly 10 per cent. of recoveries was the best record for laryngeal cases not operated upon.

We find upon enquiry that a very large number of the physicians of the province, and indeed of this city, do not use the serum. We believe that the time has come when no practitioner is justified in neglecting so valuable a means of saving life. We would ask those who still doubt if at least 90 per cent. of their cases of laryngeal diphtheria did not perish under the old treatment, and, if so, what do they think of the report of the New York Pædiatric Society, which shows about 75 per cent. of such cases saved? We must not be guided by the reports from contagious diseases hospitals, although many of these are favorable, for patients do not come into such hospitals early enough to give the antitoxin a chance. The reports of the medical officers of these institutions has done a great deal of harm in this way. They used the antitoxin in a number of cases, certainly seldom, if ever, on the first or second day, and reported that the results were not better than under the calomel fumigation or other plans of treatment. The calomel treatment is certainly an excellent one, especially for laryngeal cases, and it has saved many lives, but after considerable experience with both it and the antitoxin we believe that the latter, when used early, gives far better and more prompt results. In hospitals, again, the danger of broncho-pneumonia is greater, and many of the deaths are due to this cause.

With regard to giving immunizing injections to those exposed to the disease we have had little experience. We watch the other members of the family from day to day, and use the serum if any suspicious symptoms appear.

No unpleasant effects were observed after using the antitoxin, with the possible exception of a mild urticarial rash in three cases. This rash lasted about four days, when it disappeared entirely, and the inconvenience from it was trifling. A few cases have been reported in the journals where sudden death of the patient has occurred in a remarkably short time after the serum has been injected. The exact cause of death in these cases is, apparently, still a matter of dispute. Seibert, after many experiments on rabbits and guinea-pigs, believes that it is caused by the injection of air directly into a vein. In most of the cases so far reported labored respiration, cyanosis, and symptoms of suffocation were present, for a short time at least, before death. This fact seems to bear out Seibert's contention that death was caused by the injection of air along with the serum, rather than by any constituent of the serum itself. However, for the present, the matter must be left in abeyance. Fortunately, the number of sudden deaths that might fairly be attributed to the injection of the serum has been extremely small, and have certainly not yet been sufficient to contra-indicate its use. Extreme care, of course, should always be taken that no air is injected with the serum.

Appended are a few notes on the laryngeal cases :

CASE 1. K.C., æt. 4 years. Patient of Dr. A. D. Watson. First used calomel fumigation, but no relief followed. Injected serum thirty-six hours after onset, and intubated six hours later. Removed tube in two days, and inserted it again eight hours later. Four small doses of serum were injected at intervals of twelve hours. Recovery uninterrupted after second insertion of tube.

CASE 2. V.C., æt.  $2\frac{1}{2}$  years. Sister of No. 1. Calomel fumigations tried, but failed to relieve dyspnœa, which increased. Patient almost moribund when first dose of serum was used. Five doses of 500 units administered in all. Intubation was done to relieve dyspnœa until antitoxin would act, and, not giving any trouble, was left in fourteen days. Good recovery. Dr. Watson says he intubated six times before using the serum, and all died. The two cases reported were as severe as he ever met—indeed, both were almost moribund when first injection was made.

CASE 3. Jane B., æt. 4 years. Patient of Dr. Eadie. Contracted disease from a companion. Had suffered from gradually increasing dyspnœa for twenty-four hours. When first seen there was marked dyspnœa, with cyanosis, and feeble pulse. Injected 1,000 antitoxic units. In two hours she was quite decidedly relieved, and had a fairly good sleep.

Next day the dyspnœa was still further relieved, but did not entirely disappear until the third day.

CASE 4. A.B., boy, æt. 5 years. Reported by Dr. Hunter. On Oct. 22nd had chills, vomiting, and dyspnœa at night. On 23rd throat was sore, and at midnight dyspnœa became alarming, and doctor first saw him. There was sanguino-purulent discharge from nose, and the tonsils, soft palate, and uvula were covered with false membrane; dyspnœa was intense, face cyanotic, general cedema of skin, some stupor, and vomiting. Ordered calomel fumigations and other appropriate treatment. No improvement next morning. Bacteriological examination of exudate showed abundance of Klebs-Loeffler bacilli, together with streptococci and staphylococci, and 1,000 antitoxic units were injected at noon. Twice during the next forenoon (Oct. 25) he passed into a state of collapse, and his mother thought he was dying. Two more such attacks occurred in the afternoon, and in the last the doctor thought he was dying, and for ten or fifteen minutes the only signs of life were some shallow respirations and feeble fluttering heart-beats. Whisky was administered hypodermically, and hot-water bottles packed about the patient, and after a time some reaction occurred, although dyspnœa continued for two or three days. On the 27th the membrane disappeared. The urine was from the first loaded with albumen, but in twelve days this disappeared also, and recovery was complete. The collapse was not due to carbonic acid poisoning, for the cyanosis continued for three or four days after the collapse had passed away. It must have been due to the absorption of toxins, and the antitoxin appeared to prevent any fresh poisoning from this source. Had the antitoxin not been used he would probably have gone on absorbing fresh doses of poison, with inevitably fatal results.



## A NOTE ON AMPUTATION AT THE HIP JOINT IN ADVANCED TUBERCULOUS DISEASE.

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ONE can hardly find a subject for discussion upon which more divergence of opinion exists than that of the advisability of amputating at the hip joint in advanced tuberculous disease of the articulation. Among British surgeons one finds the expression of most adverse views. The conditions which contraindicate the operation, in the opinion of some authorities, are the very conditions in which amputation is considered necessary by others. Thus the association of profuse suppuration with lardaceous disease, diarrhœa, albuminuria, tuberculous disease in other organs and extension from the acetabulum into the pelvis, has been mentioned in a recent text-book on the surgical diseases of children as necessitating the performance of amputation in order to save the life of the patient. It is a familiar fact that most of the conditions indicated have been considered by many as precluding the possibility of performing a *successful* operation by amputation.

One cannot narrate a train of symptoms either for or against the operation ; there are many considerations to be carefully weighed in each case, and no two patients will present exactly the same association of symptoms. In some instances the only chance of recovery for the patient seems to lie in the performance of amputation. It must be admitted, however, that whilst the immediate dangers from the operation may not be as great as we might imagine, yet the prospect of ridding the patient of the disease is not encouraging. Let me give you a picture of the kind of case in which I believe the question of amputation should be considered :

A. T., æt. 6, developed symptoms of hip-joint disease in July, 1890. Previously a healthy boy, and no history of tuberculosis in the family. He was admitted, under my care, in the Hospital for Sick Children, Toronto, in August, 1890. He was a thin, delicate-looking lad, and had a slight cough. There was a slight amount of flexion at the hip, no short-

ening, but a considerable degree of abduction. He was treated by fixation of the joint in a Thomas' splint. In December, 1891 (eighteen months after the onset of symptoms), I excised the joint and found pus within the joint cavity; the head of the bone was separated, the cartilage eroded, and the acetabulum perforated. The tubercular tissue was freely removed and free drainage provided. He did not improve after the operation, but became much emaciated, the temperature remained high, and the discharge excessive. In May, 1892, and again in January, 1893, I operated, making an attempt at each operation to remove the diseased tissue and to provide more efficient drainage.

The child is now eleven years old, and has had hip-joint disease for six years. He has numerous sinuses about the hip, discharging pus in large quantities. The limb is greatly shortened, adducted, and flexed; the upper end of the femur has been drawn up on the ilium, so as to form a marked prominence below the iliac crest. The patient is emaciated, the liver is greatly enlarged, and presents a firm lower margin below the umbilicus. The spleen comes well forward into the umbilical region; the kidneys are also diseased, there is  $33\frac{1}{3}$  per cent. of albumin in the urine, with pus and mucous corpuscles. There is no diarrhœa.

This patient can scarcely recover unless we can help him surgically. Few surgeons would advocate operation in such a case, where we have such advanced amyloid disease complicating very extensive local trouble in the hip joint with pelvic implication. I have advocated amputation in this case, but so far the parents have not consented. A cure is, in my opinion, not impossible, and I believe that the time has come when such cases will be submitted to operation more frequently than in the past.

If we examine recent literature we will find the record of the result of operation in equally hopeless cases. Mr. R. Langford Knaggs has reported such a case, which may readily be compared with the one the history of which I have related. The case is as follows:

Child, eight and one-half years of age, with advanced hip-joint disease with suppuration. The liver reached to the umbilicus; urine contained one-fifth albumin. Amputation at the hip joint was twice discountenanced by the hospital house-staff. After nine months, when the patient was at her worst, amputation at the knee was performed on March 9, 1888. This healed and the symptoms improved. The hip disease relapsed, and amputation, by Furneaux Jordan's method, was performed in October, 1888, and fragments of bone removed from a large cavity in the acetabulum. She left the hospital convalescent. In January, 1892, all sinuses had healed and the hip disease was quite well. The liver could no longer be felt.

You will agree with me that here we have a case presenting an asso-

ciation of symptoms which would be looked upon by many as contraindicating treatment by surgical operation. In this case, as in the one I narrated occurring in my own practice, we find amyloid disease and albuminuria complicating extensive tubercular disease at the hip with perforation of the acetabulum. Mr. Langford Knaggs' case has demonstrated the *possibility* of cure in such cases.

Apart from the question of the possibility of cure by amputation in such cases, one should inquire into other circumstances influencing one in forming an opinion. The magnitude of the operation suggested should be taken into account. The correct method of estimating this is to determine the mortality. Now, the rate of mortality is usually placed far too high, because we do not differentiate cases operated upon for tubercular disease from other cases.

In general terms, we find most text-books place the mortality after amputation at the hip joint at 60 per cent. Again, whilst the mortality after amputation at the hip for injury is 80 or even 90 per cent., that after amputation for disease (to quote Ashurst's figures) is 40.2 per cent. The mortality after the operation for disease is, however, much reduced in recent years, chiefly because of improvements in the technique of the operation.

I have taken the results attained by six surgeons, comprising in all eighty-five cases of amputation at the hip for disease, and I find the mortality to be only 10.6 per cent.. Of these I find, where I have been able to trace the ages of the patients operated upon, that in children the mortality is even lower. Thus Davy reports ten cases (with one exception inveterate cases of morbus coxæ); all the children in this list (8) recovered; two adults (29 and 43 respectively) died. Again, Gardner, surgeon to the Aberdeen Royal Infirmary and Sick Children's Hospital, reports fourteen cases without a death.

It would appear, therefore, that the mortality following amputation at the hip joint for tuberculous disease in children is not greater than 10 per cent.

I performed amputation at the hip joint in a case of tuberculous disease last March. The patient was a girl six years of age when she came under my care in March, 1893. In July of the same year an abscess was detected, and I excised the joint and provided for efficient drainage. The condition at the time of operation was as follows: The head of the femur was separated, the cartilage eroded, the acetabulum roughened, but not perforated, the ligamentum teres was as thick as one's little finger, and there was a large amount of soft, pulpy, gray material within the articulation. The greater part of the great trochanter was removed in order to get entirely rid of the disease. Sinuses continued to discharge for a lengthened period. In October, 1895, I opened an iliac abscess. In January, 1896,



I noted that there was apparently some slight enlargement of the liver ; the patient was extremely emaciated, the discharge excessive ; there was no albuminuria.

In March, 1896, I removed the limb by Furneaux Jordan's operation. She recovered well from the shock of the operation ; she gained in flesh and appeared much better ; she was much more comfortable than she had been, and she was very much less irritable. About ten weeks after the operation she developed headache and vomiting, and died with symptoms of tubercular meningitis three months, all but a few days, after the operation.

Death in this case can hardly be attributed to the operation, but was caused by a complication which may occur at any time during the course of tubercular arthritis.

The narration of this case is of value, indicating, as it does, the fact that a child suffering from extensive disease, and whose general condition is extremely bad, is capable of rallying from the shock of such a severe operation.

One cannot in a short paper discuss all the aspects of this important question, but one may be pardoned in suggesting a few points in the technique. The operation is simple in the extreme ; it is never done unless excision has previously been performed ; as a primary operation in tuberculous disease it is most justifiable. By Furneaux Jordan's method, after excision there is no difficulty ; the operation is performed easily and rapidly.

To my mind, however, the most important point in the technique of the operation is the prevention of hæmorrhage. It is held that 70 per cent. of fatal cases of disarticulation die of hæmorrhage. Wyeth's so-called "bloodless method" of amputating at the hip joint by the introduction of skewers, and the application of rubber tubing above these to constrict the limb, should not be employed when we have to operate on a child. The method is an admirable one, when we have to deal with a healthy hip joint (*e.g.*, in a case of sarcoma affecting the femoral shaft) in a well-developed adult, where it is impossible to control the circulation in the femoral without resorting to a tourniquet. The method, however, should not be attributed to Wyeth, as a similar method was adopted by other surgeons many years before Wyeth described it. Thus a pupil of Volkmann's claims that the method was originated by Brashear in 1806, and reintroduced by Volkmann seventy-five years later. I myself saw a very similar method employed in Edinburgh thirteen years ago, some years before it was utilized by Wyeth. The method of controlling hæmorrhage by constriction of the limb should, however, never be called "bloodless" ; a less appropriate term could not be chosen.

There may be little blood lost at the time of operation, but the subsequent oozing is excessive. My attention was first called to this, as a student, by Lister, who showed that Esmarch's method of controlling hæmorrhage was objectionable; because he held that the excessive pressure on the nerves of the limb caused vaso-motor paralysis, and upon the removal of the constricting band the small vessels dilated. This can be observed at any time by noting the blushing which occurs in a limb after the removal of a tourniquet.

The method I adopt in amputating a limb, wherever practicable, is that of digital compression of the main artery. Thus in the case of amputation at the hip which I referred to, my assistant compressed the femoral artery over the pubis; the amount of blood lost at the operation was almost *nil*, and the subsequent oozing inconsiderable. Digital compression is always possible in children in amputation at the hip, and should always be employed.

I believe that the method suggested by Mr. Howse of removing the limb by instalments has much to commend it, although I have never tried it. Thus in disease of the hip requiring amputation Mr. Howse first amputates at the knee, and subsequently at the hip. The advantages claimed for the method are :

- (1) Freedom from pain is often secured to a large extent.
- (2) Improvement in the hip disease is noted in many instances.
- (3) It is claimed that the severity of the subsequent amputation at the hip is much diminished.

In conclusion, one may note the following points : The operation of amputation at the hip joint should never be performed except in otherwise hopeless cases. Amputation should be reserved for those cases in which excision has previously been performed. Hæmorrhage should be controlled by digital compression. Amyloid disease and perforation of the acetabulum do not contraindicate the operation.

## Selected Articles.

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### THE THEORY OF ELIMINATIVE TREATMENT OF TYPHOID FEVER.\*

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ALTHOUGH the practice of administering purgatives freely and frequently throughout the entire duration of typhoid fever has extended widely in this country since the publication of my first paper on "Eliminative and Antiseptic Treatment of Typhoid Fever" in *THE CANADIAN PRACTITIONER* for April, 1893, and the objection that great danger is associated with such a course is now seldom heard, yet there still exists much misconception regarding the ideas which underlie this plan of treatment. This misapprehension is mainly due to a faulty appreciation of what is meant by "elimination," the term being made to indicate only the clearing of bacteria from the intestine, the far-reaching effects of purgatives on the body generally being altogether ignored. The misapprehension I refer to is well illustrated in the inaccurate report of the eliminative and antiseptic treatment of typhoid which appears in the recent edition of a well-known work on the practice of medicine.<sup>1</sup> In addition to the common mistake, the writer of the book asserts that this treatment is based on erroneous ideas of the pathology of the disease. Eliminative treatment is, in the paragraph referred to, said to depend on the erroneous idea that the specific bacteria are confined chiefly to the intestine. Continuing, the writer of the book makes the positive statement that the specific bacteria are not present in the intestine until the ninth day of the disease. It is also pointed out that the specific germs are found in the spleen and in other parts of the body, the reader being led to infer that

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the advocates of the eliminative treatment had failed to appreciate that fact.

In a paper devoted to the theory of eliminative treatment I hope to make more apparent the ideas upon which it is based, and to indicate more clearly the objects to be attained by the continuous administration of purgatives throughout the disease ; but more especially do I wish to combat the assertion that this treatment is based on an erroneous conception of the pathology of the disease.

I shall at the outset, and at the risk of being tedious, briefly set forth the eliminative and antiseptic plan of treatment, in no way varying from that which appeared in the papers published by me in the *Medical Record* of March 10, 1894, and September 14, 1895. In the papers referred to, I subscribed to the view that typhoid fever is a condition in which prolonged poisoning occurs, the toxins being produced by certain bacteria which enter the body and flourish mainly in the alimentary canal, but which are also found in the glands of the intestinal wall, in the lymphatic nodes of the mesentery, in the spleen, and less frequently in the lungs and other viscera. Their original location, however, is the intestinal canal ; that is, they are first free in the intestine, but are afterward to some extent carried by the absorbents into other parts of the body. Wherever located they, as a necessary part of their life, produce a toxic substance, which in turn produces the phenomena of the disease. Wherever the bacteria are, there of course will be the toxins which have been elaborated as a result of their activity ; so that in the course of the disease the absorbents would carry toxins from the bacteria in the intestinal contents ; from the colonies of bacilli within the lymph glands in the intestinal wall and mesentery, while those generated by the bacilli which have reached the spleen or are located in other viscera will be thrown directly into the circulation.

In the former papers referred to, I held to the view that the toxæmia of typhoid is due to more than one form of bacillus ; that while everything points to a specific bacillus, such as that described by Eberth, yet it is impossible to ignore the extreme likelihood of a portion of the toxæmia being due to poisons produced by other bacteria, notably by the bacillus coli communis. In support of that view I cited the facts that under certain conditions the colon bacilli do become exceedingly poisonous ; that they produce the toxin which leads to fatal results in peritonitis ; that it has been pointed out that wherever the intestine is injured these bacteria take on virulent properties.<sup>2</sup> There is also the probability that the bacillus coli communis becomes virulent as a result of association with Eberth's bacillus.

I also urged that in addition to poisons produced by Eberth's bacillus and by the colon bacillus, some portion of toxæmia must be attributed to putrefactive and other bacteria in the intestine.

Throughout the course of the disease there is a continual augmentation of the toxæmia by absorption from the intestine, and from accessions of quantities of poison produced by the colonies of bacilli in the spleen, mesenteric glands, or Peyer's patches.

As to the manner in which these toxins affect the system, I quoted Woodhead<sup>3</sup> to show that, like many substances spoken of as poisons, they had what might be termed a constitutional and also a local action. In the circulation they bring about widespread disturbance of function, e.g., fever, headache, vertigo, delirium, coma, etc., and where gathered together or concentrated at one point irritation of tissue occurs, with the usual phenomena of increased rapidity of cell multiplication, increased vascularity, and increased exudation from the vessels into the surrounding tissues. If concentrated still further, or if the period of contact be extended beyond a certain point, increased activity in the tissues is replaced by stagnation and death of the part, with subsequent casting off of the necrotic portion.

While there is undoubtedly a great difference in the virulence of epidemics, as well as a difference in the susceptibility of individuals, yet in a given case the symptoms increase in severity in proportion to the quantity of toxins in the system. The symptoms, taken as a whole, indicate the degree of toxæmia.

Turning now to the most recent English work on medicine,<sup>4</sup> I find that the writer on typhoid fever, Professor Dreschfeld, of Manchester, believes Eberth's bacillus to be the primary cause of the disease, but that many of the symptoms and much of the toxæmia are due to the colon bacilli and to other germs.

He also gives, without comment, the results of investigation by Pisenti and Bianco-Mariotti to determine the relation between the typhoid bacillus and the bacillus coli.

(1) On simultaneous injection into animals of cultures of bacillus typhoides and bacillus coli (which latter had been proved to be inactive), bacillus coli increased in virulence so as to act like any virulent bacillus typhoides on animals.

(2) If sown on gelatin mixed with filtered cultures of bacillus typhoides, bacillus coli also gained in virulence, owing to the typho-toxin acting on bacillus coli.

(3) Healthy intestinal epithelium hinders infection from the intestine, but if Peyer's patches undergo changes this defence is in abeyance.

Filtrates from typhoid cultures exert an influence on Peyer's patches, so that in typhoid fever the toxin in the blood alters the Peyer's patches, and thus bacillus coli enters the body and adds to the virulence of the typhoid infection.



(4) With very virulent cultures of bacillus coli results were produced (such as thermometric curves, for instance) similar to those obtained by very virulent bacillus typhoides, and animals could be thus immunized against bacillus typhoides. At the same time the experimenters refrained from any expression of opinion as regards the identity of the two.

Regarding the mode of infection, Professor Dreschfeld believes that the bacilli "reach the alimentary canal, multiply, penetrate into the mucous and submucous coats, invade the lymphatic tissues, and pass thence through the lymph channels into the mesenteric glands. Some of the bacilli reach the blood and pass to internal organs, principally the spleen. The bacilli produce various poisons, at present hardly known; some of these have a pyrogenetic action and thus produce the fever. As a result of their irritant action and that of their products, we get the intensely inflammatory signs in the intestine leading to necrosis."

I have quoted sufficient to show the ideas regarding the pathology of typhoid adhered to in this most recent work on medicine. I submit that these ideas as to pathology and mode of infection in typhoid are identical with those upon which I based eliminative treatment, as can be shown by reference to my published papers on the subject. In addition, however, I questioned the correctness of the very general statement that the specific bacteria are not present in the intestinal contents during the first nine or ten days of the illness. I maintained that, having in view the very great similarity between bacillus typhoides and bacillus coli, and the failure to find methods of differentiation which could be considered at all reliable, simply because bacteriologists working with uncertain methods had not found Eberth's bacillus before the ninth day, the assumption that this bacillus is absent from the intestinal contents before the ninth day was not justifiable. I argued that since there can be no doubt of their presence and multiplication originally in the intestine before infection of the glands—for how otherwise can the simultaneous invasion of Peyer's patches for several feet of the length of the intestine be explained?—and since there is no difference of opinion regarding their presence in the intestine after the ninth day, the dogmatic assertion of their absence during the first nine days is unreasonable. More than that, if adhered to, it led to the absurd contention that the bacilli enter the intestine, multiply there, penetrate into the intestinal walls over a large extent, the process occurring without symptoms of any kind, but when the last specific germ has passed from the intestine into the body, then, and not until then, are there signs of illness. Such a theory is manifestly unreasonable, yet, unless it be maintained absolutely, the contention that the specific bacilli are absent from the intestine during the early period of the disease must be abandoned. In other words, the process of invasion of the glands is coincident with the earlier symptoms of toxæmia.



This is the only point in which the ideas expressed by me in the papers on eliminative treatment differ from those set forth by Professor Dreschfeld. But he does not assert the absence of Eberth's bacillus from the fæces in the early period; he merely states that they have not been found there during that time. He appends, however, a paragraph pointing out that since his article was in press, the new method of Elsner, which appeared "to fill the long-felt want of easily isolating the bacillus of typhoid and to distinguish it from the colon bacillus," had been discovered. By this method, Elsner was able to easily separate Eberth's bacilli from the fæces in fifteen out of seventeen cases in the various stages of the disease. The two cases in which he failed to obtain them were entering upon convalescence and the temperature was normal.

Elsner's method was tested by Brieger<sup>6</sup> in eleven cases and by Lazarus<sup>7</sup> in forty-one cases, and his results were confirmed.

Brieger found Eberth's bacilli in the dejections of typhoid patients while the symptoms were still obscure.

In repeating Elsner's examinations, in forty-one cases Lazarus found that the specific bacilli disappeared from the dejections with the beginning of convalescence, but that in the case of relapse they were again found in the fæces.

Thus it seems that what I argued must be the case in my article in the *Medical Record*, September 14, 1895, has actually been demonstrated.

That the tests made use of prior to Elsner's method for the differentiation of bacillus typhoides from bacillus coli were not to be relied upon is shown by investigations carried on by Professor Dreschfeld and Mr. Robinson in the laboratory of Victoria College, Manchester. They found that some apparently typical colonies of Eberth's bacillus produced gas in saccharine media, others did not. Of those which produced no gas, some gave the indol reaction, and three did not. These three coagulated milk.<sup>4</sup>

My great error, according to the author of the American work on the practice of medicine, to which I referred in the beginning of this paper, was in believing the specific bacilli to be present in the intestine during the early period of the disease. I submit again that, in the light of what has been demonstrated by Elsner and corroborated by Brieger and Lazarus, the error is not mine.

I asserted at the beginning of this paper that there exists much misconception regarding the objects to be attained by the continuous repetition of purgatives throughout the disease. I also expressed the opinion that the misapprehension arose chiefly because elimination is taken to mean simply the clearing out of the specific bacteria from the intestine, whereas a much wider process is indicated by the term "eliminative"—how much wider I hope to show when we come presently to the effect of purgation in typhoid.

However, before entering upon the treatment, there are some fundamental facts which it is necessary to keep prominently in view in order to appreciate the logic of the eliminative treatment.

(1) There is the constant augmentation of the toxæmia ; the toxins produced by bacilli in the intestinal contents, and that elaborated by the colonies located in Peyer's patches and in the mesenteric glands, are constantly being conveyed into the general system. Toxins produced by colonies in the spleen or in other viscera will reach the circulation at once.

(2) That during the course of the disease, bacilli, both specific and bacillus coli, as well as toxins, are carried from the intestine still further to increase the number in Peyer's patches, mesenteric glands, and spleen, and to increase the toxæmia.

(3) That death comes in typhoid fever in two ways, leaving out of consideration accidents such as epistaxis, etc., either by the excessive accumulation of toxins in the body or by the excessive local action of the toxins on particular tissues. Roughly, it is said that eighty per cent. of the mortality of typhoid is due to toxæmia ; that is, the constant augmentation of poison in the body, either directly by overcoming the vital centres, or less directly by producing exhaustion through prolonged interference with the functions of nutrition and repair, proves fatal.

The remaining twenty per cent. of the fatality includes, of course, the rare accidents and complications, but is chiefly made up of the cases that result fatally owing to the excessive local action of the toxins on particular tissues. By far the greater part of this is due to hæmorrhage and perforation, two accidents incidental to necrosis. Necrosis occurs with so great frequency in Peyer's patches because of the facility with which bacteria, specific and others, and also toxins, are carried from the intestine to the glands. The colony originally in possession increases rapidly, elaborating at the same time toxins. Moreover, throughout the disease there is a constant reinforcement, owing to carriage of bacteria and toxins from the intestine. At first the gland is swollen, owing to the attempt of the tissues to destroy the intruders ; but finally, in the case of the glands that ultimately become necrotic, the tissues are unable to resist the prolonged action of the ever-increasing toxins and death of the part occurs. Let us now notice the defensive measures against the condition described.

There are the channels through which toxic substances leave the body.

In the order of their importance they are :

(1) The bile. By way of the biliary secretion much of the toxin escapes from the body into the intestine and from there is carried out. So much of the toxin elaborated in ordinary condition of health escapes with the bile that Bouchard<sup>9</sup> estimates the toxicity of bile as nine times greater than the toxicity of urine.

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(2) Next to the bile as a channel for the elimination of toxins comes the urine.

(3) The serous secretion from the intestine carries with it whatever poisonous substances may be in the circulation and the body is relieved of so much toxin, just as it would be if bleeding instead of purging the patient had been resorted to.

(4) In addition to these three channels, toxin of course escapes by the breath and by the skin.

A further defence is found in the resistance and aggressive action of the tissues themselves. Indeed, in cases that recover, the bacilli in the body must be destroyed by the tissues, excepting of course those that escape by the urine. Here it may be noticed that the aggressive and defensive action of the tissues is in inverse ratio to the extent of the toxæmia.

The plan of treatment which I, in 1893, brought forward as the "eliminative and antiseptic treatment of typhoid" consists in the administration of frequent doses of purgatives throughout the entire illness. It is also considered of primary importance that purgation be secured as soon as possible after the patient comes under notice.

The purgative medicines chosen are those that act on the upper and smaller intestine. Perhaps the most satisfactory is the combination of calomel and salines. The calomel may be given in several doses, say of a half or one-grain, and followed in several hours by a saline, magnesium sulphate, or sal Rochelle in half-ounce doses. However, other purgatives may be given—cascara, Seidlitz powders, Carlsbad salts, compound cathartic pill, etc. The quantity of the dose and the frequency of the repetition must be determined by the necessities of each case.

With the employment of purgation is associated the use of antiseptics. My experience is with salol chiefly; and my practice is to give it in ten-grain doses every three or four hours. I have pointed out before, in the articles above referred to, that antiseptics may be given in much larger doses and with greater freedom from the occurrence of symptoms due to the antiseptic, if associated with the frequent administration of purgatives. To compensate for the withdrawal of so much fluid from the body by so frequent purgations, as well as to dilute and facilitate the elimination of poison through the kidneys, the ingestion of large quantities of water is enjoined. Coming now to the purpose of this treatment, it is obvious concerning the antiseptics and the giving of large quantities of water.

The purpose of giving purgatives in the way I have described is:

(1) To interrupt the process of infection; that is, by sweeping out the intestine to clear away bacilli, specific and non-specific, and also toxins



which would otherwise go to increase the number of bacilli in the body and to increase the existing toxæmia.

(2) To counteract at frequent periods the continuous augmentation of toxins in the body by carrying away the toxic bile poured into the intestine, which if not carried away is again taken up and returned to the system.

(3) To further deplete the volume of toxins in the body by causing a free secretion into the intestine, bringing with it toxins in solution in the body fluids.

(4) The constant clearing of the intestine must lessen the extent of the local lesion, because it cut off the base of supply from which bacilli and toxins are carried to Peyer's patches to reinforce the bacilli and toxins already in possession. It is apparent, too, that the earlier this is resorted to, the better for the tissues in Peyer's patches. Thus, while on the one hand there is a continual production of toxins in the body, on the other by the frequently repeated administration of purgatives we endeavor to eliminate these toxins in sufficient quantity to keep the total volume of poison in the body below a harmful point, until the period of immunity is reached. In like manner, keeping the intestine clear limits the local lesion in the intestinal glands.

A frequent mistake in carrying out this treatment is in supposing spontaneous action of the bowels to contraindicate the use of purgatives. Such is not the case, for it is well known that the diarrhœa is most frequently owing to catarrh of the colon and to toxæmia. Thus, while the bowels may be acting many times a day, yet little in the way of elimination of toxins is accomplished, the toxic bile in the upper intestine and the bacterial collections in the ilium remaining undisturbed. Indeed, in this instance, as in the mycotic and irritant diarrhœa of children, the flux is best controlled by giving a purgative.

Returning to the details of treatment, I have before pointed out that it is of the greatest importance to secure elimination by the bowels as speedily as possible, in order to cut short at the earliest possible period the process of infection.

Because the case appears to be a mild one is no reason for withholding treatment, for the case that appears mild may in ten days' time, by the process of gradual accumulation which I have described, show symptoms of the most profound toxæmia. In many cases, too, in which the symptoms are not pronounced, the local lesion may be so severe as to prove fatal.

It has been objected that so frequent purgations must do harm by carrying out useful bacteria from the intestine <sup>1</sup> There is no ground for

such a supposition, for experiments to determine that point show that a perfectly sterile intestine in no way interferes with health.

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—*Medical Record*.

## A REVIEW OF THE SURGERY OF THE PERITONEUM.\*

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I WILL restrict the subject of this address to a brief review of certain prominent circumstances in abdominal surgery, especially in so far as they concern the peritoneum.

### THE RITUAL OF AN ABDOMINAL OPERATION.

Students in their examination papers still, very properly, speak with awe of the peritoneum, and insist that an abdominal operation should be done "under strict antiseptic precautions." Thanks to the mighty revolutionary work of Lister, the great principle which underlies this axiom has been vividly demonstrated and well learnt, and it is probable that, after many vicissitudes, we are approaching the time when the best practical means of realizing that principle will have been arrived at.

It is no matter of surprise that progress in the perfecting of the details of a great plan of treatment should have been at times erratic and ill-controlled. Since the days of the carbolic spray enthusiasts have rushed into strange and blundering extremes in their attempts to give practical expression to the dictum of "strict antiseptic precautions." These words have been with many a kind of mystic writing upon the wall, and activity in the interpretation of the message has been little short of confusion. In this practical country we have been fortunately spared the extravagances which have brought certain Continental operating theatres into ridicule. Those who come after us will read with interest of the operating theatre built like a diving tank, of the glass table for the patient, of the exquisite ceremonial of washing on the part of the operator, of the rites attending the ostentatious cleansing of the patient, of the surgeon in his robes of white macintosh and his india-rubber fishing boots, and of the onlookers beyond the pale who are excluded, with infinite solicitude, from the sacred circle as septic outlaws.

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This exhibition may be scientific, but it is no part of surgery. It is more allied to a fervent idolatrous ritual brought down to the level of a popular performance. Those who have been led into these uncomfortable extravagances are, no doubt, honestly assured that they are carrying out the "strictest antiseptic precautions," but in blindly effecting this end they appear to forget what is the prime purpose of the art of surgery. Can this extreme demonstration be necessary? Is it not piling Pelion on Ossa and slaying the already slain? The surgical ritualists appeal to the infallible tests of the bacteriological laboratory, and bring forth, as conclusive evidence, an array of cultivations and of inoculated tubes. Most English surgeons, on the other hand, are content to appeal to the test of the patient, and to bring forth records of results. The work in the operating theatre comes up for criticism a week or more after it is done. A surgeon may remove a limb at the hip joint in two minutes, and the performance may appear at the time to be very wonderful and brilliant. It may, however, as well have been dull if the patient dies at the end of a few distressful days. An operator in fishing boots, nurses with their hands and arms wrapped up in special towels, and a hose playing about the floor of the theatre may form an impressive sight, but to what degree does it bear upon the interests of the patient? An operating theatre is no more suited to be an arena for legerdemain than it is intended to supply an object lesson in the art of disinfection. What is done in the theatre may be, at the time, right or wrong; it can be judged by but one solitary and exacting test—the future of the patient. If this test be insisted upon, I venture to state that the general results obtained by operative treatment in the chief hospitals in this country compare very favorably with those obtained elsewhere, in spite of the fact that the method of most English surgeons is unassociated with the elaborate ritual now alluded to.

There is, indeed, the amplest evidence to show that these extravagant and almost grotesque preparations for an operation are unnecessary; for that evidence demonstrates that such formulæ give, in no one class of operation, a better result than do the simpler methods with which we are familiar. More than that, it is scarcely to be believed that the long-continued exposure and washing of the patient after he has been placed upon the operation table is always quite harmless. When the feverish struggle of Continental surgeons to introduce mere novelties into surgical practice is at an end we may hope once more to resume the development of surgery as a handicraft. At present the actual handling of knives and forceps is overwhelmed by the dexterous disposal of the wash hand basin and the soap dish. In contradistinction to the vagaries of the new surgery I would point out that a simple method, such as the following, appears sufficient to secure the much-exalted antiseptic precautions, or at least to produce

admirable surgical results: The operating room is clean and free from dust. It may be in a hospital, or it may be simply a wholesome bedroom in a private house. There is nothing peculiar in its construction. The table is of wood. It is not bacteriologically clean, but it is handy to the surgeon and comfortable to the patient—two points worthy of some consideration. Some time before the patient enters the theatre the skin of the abdomen is shaved, is well washed with soap and water, and then with ether (or an ethereal solution of corrosive sublimate), and is finally covered by a thick compress soaked in a 1 in 20 carbolic solution, which is kept in position for at least five hours before the operation. The surgeon is clean, but he does not parade his cleanness. The mackintoshes and blankets which envelop the patient are, in a domestic sense, clean. The towels which cover the body in the vicinity of the operation area are taken direct from the sterilizer. The instruments are sterilized by boiling, and are placed in a tray containing 1 in 20 carbolic acid solution.

Before the operation is commenced, this solution is infinitely diluted with boiling water, so as to render it free from any irritant power. The only sponges I use are made of Gamgee tissue cut into 6-inch squares. They are allowed to soak for twenty-four hours in a 1 to 20 carbolic solution. Before the operation the carbolic acid is washed out of them by sterilized water, and each square is passed through a well-cleaned sponge roller. Very rarely indeed is a Turkey sponge needed, as for all purposes the tissue sponges are, I think, as efficient, while they are certainly safer and more easily manipulated. An 8-inch pad, on a sponge holder, placed in Douglas' pouch will save an infinity of trouble in cases attended by extravasation. Any onlookers who wish can approach the operation table, provided they touch neither patient, sponge, nor instrument.

As to whether these simple and commonplace precautions are sufficient, I may take as a test the operation of removing the vermiform appendix during the quiescent period. This operation is performed upon patients of both sexes and at all ages. It may be most simple or prove to be exceedingly difficult, may involve two hours in its performance, and involve considerable suturing. I have carried out this measure in over 150 cases, with one death. I doubt if even this one case would have been saved had I adopted the skin washing and india-rubber boot ritual. In the securing of primary healing after such operations as amputation and excision of the breast, I would venture to state that the results obtained by the simple method just described are not surpassed by any accredited to the school of advanced ceremonial.

What dressings are used after operation is a matter of little or no moment. The wound is dried and well dusted with iodoform. The iodoform is kept in place by a pad of wool and a binder. The selection of a

dressing for a wound was at one time a matter of infinite importance and of anxious concern. It has now become a question of not the least consequence. Many wounds require no dressing at all. They are dried, are dusted with iodoform, and are left exposed to the air under the protection of a cradle. The fact that the iodoform is swarming with micro-organisms may disturb the bacterially-minded surgeon, but it disturbs neither the wound nor the patient.

#### PERITONITIS AND THE TREATMENT OF THE PERITONEUM.

Very remarkable are the changes which have taken place in our estimate of peritonitis. It was but in 1887 that Spillmann and Ganzinotty described no less than twenty-six different forms of peritonitis in their well-known monograph. Now the varieties of peritonitis can be counted upon the fingers of one hand. The evidence is practically complete which demonstrates that all forms of peritonitis are septic, and are due to infecting micro-organisms. The existence of a rheumatic form of peritonitis has been by no means placed beyond doubt, and it is safe to assert that its individuality is very questionable. The peritonitis ascribed to the pneumococcus has not yet emerged from the confusion of a bacteriological squabble. Idiopathic peritonitis, which was at one time regarded as a definite and common disorder, has now, indeed, ceased to exist. The constitutional symptoms of peritonitis are in the main those of septicæmia, and it is from blood poisoning, and not from inflammatory disturbances, that the subject of peritonitis dies. He dies poisoned. When the peritonitis is developed away from what may be termed the "small intestine area" it is apt to be localized. This is illustrated by peritonitis in the iliac fossæ, in the pelvis, and in the subphrenic regions. In all these districts the surgical treatment of peritonitis has been most successful. Peritonitis in the "small intestine area" is, on the other hand, rapidly diffused, and is as rapidly attended by septicæmic symptoms. In the treatment of localized peritonitis, surgery can claim to have made great advances, but in the treatment of diffused peritoneal inflammation, with marked constitutional symptoms, there is little progress to record. The abdomen may be opened and washed out and drained, and the distended bowel may be relieved of its putrescent contents by incision, but the results at the best are not brilliant, and it is evident that the treatment of this terrible complication must still incline towards that desirable prevention which is better than cure.

Excellent have been the results obtained in the treatment of tuberculous peritonitis of almost all grades. The examination of some 300 recorded cases treated by abdominal section shows that a prospect of cure may be expected in over 60 per cent. of the instances, and that in 33 per cent. of those who recover the cure may be expected to be complete.



Simple incision, with free evacuation of the infected effusion, is the most successful of the many measures employed. The highest percentage of cures has been attained when the abdomen has been neither flushed out nor drained, but when the exudation has been merely evacuated, and the parietal wound closed. This fact is as remarkable as it is unexplained, and it is evident that the time has not yet come when general principles can govern the treatment of surgical tuberculosis.

With regard to the general management of the peritoneum in operation cases, it would be a matter of sad interest to learn how much harm has been wrought by that unfortunate term "the toilet of the peritoneum." The much-abused serous membrane has quite a remarkable capacity for defending itself, up to a certain extent, against the invasion of micro-organisms. This power is lost if the membrane be irritated, or if its fine surface be damaged. Experiments upon animals appear to have demonstrated this fact very clearly. In the course of an abdominal operation, extravasation of one sort and another must, now and then, take place into the peritoneal cavity, and very often the surgeon has to blame his roughness or his defective tamponading for the extent of the effusion. It is well to be reminded that it is better to anticipate an extravasation, by cautious plugging and other means, than to deal with it successfully afterwards. Whether the effusion be harmful or harmless, the surgeon possessed of the term the "toilet of the peritoneum" is apt to be a little indifferent as to its amount. He proceeds blindly to remove it—although it may be quite sterile—by reckless flushings and by infinite sponging, rubbing, and scouring of this most delicate and susceptible of membranes. He removes it at all costs, and the cost unfortunately falls upon the sensitive peritoneum, and peritonitis is the not infrequent result. I do not say that an extravasation should be left in the abdomen, but I would prefer to leave a few ounces of sterile cyst fluid in that cavity than damage the peritoneum beyond all hope by persisting attempts to remove every trace of it by sponging.

If the extravasation be really noxious, and also extensive, it is best removed, not by scouring out the abdomen, but by flooding it with sterile water, with as little handling of the intestines as is possible. In actual practice even this washing out of the serous cavity is but very rarely required. Drainage of the peritoneal cavity also is not often needed, and in the selection of vehicles for drainage I venture to think that the very best is the gauze tampon, and the very worst the glass drainage tube. The gauze drain, if properly introduced, is most efficient, is capable of almost infinite application, and has proved one of the most valuable of the additions made to the details of an abdominal operation. The future of not a few operations hangs, in my belief, upon the gauze tampon, and but for it there are certain procedures which would be scarcely justifiable.

## MALIGNANT DISEASE OF THE PERITONEUM.

The term "cancerous peritonitis" has, in spite of its simple foolishness, not yet vanished from literature, and text-books still speak gravely of primary cancer of the peritoneum. The most usual statement handed down from one writer to the other is to the effect that "colloid cancer is most common in the omentum." It is needless to say that primary cancer of the peritoneum does not exist, inasmuch as the membrane provides no tissue from which a true carcinoma can develop. Those who speak of cancerous peritonitis may as well discourse on "sarcomatous scarlatina."

The peritoneum is, however, liable to an evil form of sarcomatous growth, and this is most common in the omentum. The subjects of this hopeless form of malignant disease are mostly adults of about middle life, and in my experience the trouble is more common in males than in females. I have met with it, however, several times in young subjects, and have known it mistaken more than once for tuberculous peritonitis.

The subjects of this affection generally exhibit the three cardinal features of malignant disease, namely, loss of strength, loss of weight, and loss of color. They usually at first experience a want of energy, and feel listless and depressed. After this sense of vague ill-health come some abdominal uneasiness, some colic or sickness, or flatulent dyspepsia, with a sense of weight and sinking in the abdomen. The belly is examined, and a lump discovered. The tumor, when in the omentum, is one of the most characteristic of abdominal swellings. It moves about; it is always flat on the surface, which faces the anterior parietes. That surface may feel hobnailed or quite smooth. The margin, which is usually distinct and thin, is commonly crenated. The lower margin is, of course, the one best felt; on very slight percussion the swelling is dull, on deeper percussion it may be resonant. The mass feels like a cake, of no great thickness, moulded to the curve of the abdominal wall. If pressed down it seems to float up again. While the fæcal mass may present large bosses on its parietal aspect the sarcomatous cake is relatively smooth. There is nearly always some ascites with the malignant growth, and often two lumps can be felt which may be shown to be connected. The sarcomatous mass is not tender; the fæcal mass, owing probably to ulceration of the bowel, usually is tender. A large malignant growth on the anterior wall of the stomach, which has been much displaced downwards, and which has a free pyloric opening, may be readily mistaken for this peritoneal sarcoma. I have known the growth confused with movable kidney, with splenic swelling, and very often with a fæcal tumor. The diagnosis of "a movable left kidney" in a middle aged man is very suggestive of a peritoneal sarcoma.

There is no doubt but that this growth is pathologically identical with



the still commoner retroperitoneal sarcoma. The latter always appears to start from the posterior parietes, occurs in patients of the age alluded to, and carries with it the same prognosis. I have examined many by exploratory incision, and have usually observed after the operation that diminution in the size of the growth to which various surgeons have drawn attention.

The retroperitoneal sarcoma makes itself evident in many remarkable ways. There may be a gradual decline in health at the time that the growth is noticed, or there may not. Nothing but indefinite abdominal uneasiness may precede the discovery of the lump. Very often there is distinct disturbance of the colon, for it is in the tissues behind the ascending and descending colon that the growth is the most common. As it extends it pushes the colon forwards. I have known this insidious disease make itself first evident by producing an attack of subacute intestinal obstruction. The nerve apparatus of the bowel is in most cases interfered with. There are colic, disordered action, and strange pains. Above all, there is a definite deep pain referred to the kidney region or the loin or the back, which begins to stand out from among the less constant symptoms. This pain is neuralgic; it has the characters of a nerve pain, and is apt to become intense. An abiding pain in "the back of the belly" in an adult is a symptom which should always excite suspicion. Some of the subjects of retroperitoneal sarcoma whom I have seen have been treated as dyspeptics; others have been at first assumed to have renal calculus, stricture of the colon, or gallstones. The growth in its early stages is very indefinite in its outline. It becomes evident enough in time, and often leads to such cedema and even redness to the integuments as to give rise to a suspicion of deep-seated suppuration.

Before concluding this part of the subject, I might say that since in certain wards at the London Hospital we have treated all cases of ascites needing tapping by a little exploratory incision in place of the unsatisfactory and no safer puncture not a few errors in diagnosis have been corrected.

#### PERITYPHLITIS.

I have no intention of entering at length into the details of this much-discussed form of peritonitis, and will only consider a few points which I venture to think may claim attention.

(1) Mere terms have before now had some influence in the formation of a belief, and the introduction of the well-rounded expression "appendicular colic" has evidently given rise to the impression that such a disorder or condition actually exists.

There is, so far as I am aware, not one fraction of evidence worth considering upon which to base the existence of this malady. By colic is



understood certain painful symptoms depending upon violent and disorderly contraction of the muscular wall of the intestine. It is assumed by those who have been captivated by the term "appendicular colic" that fæcal particles or foreign substances enter the appendix and cause intense muscular contractions in this organ, which contractions have for their purpose the expulsion of the intruding body. In opposition to this assumption, it may be pointed out, in the first place, that fæcal particles are remarkably well tolerated in the appendix, as an examination of healthy organs after death will amply demonstrate. In the next place, the intensity of colic must depend upon the power of the irritated muscle and the supply of sensory nerves to the disturbed part. It so happens that the muscular tissue in the appendix is of the feeblest character; the so-called muscular coats indeed are mainly composed of fibrous tissue. In some appendices it might be questioned if a definite layer of muscle exists. In any case it is but a mere stratum of attenuated fibres, and it is not to be conceived that the most vicious contraction of this shred of tissue could be appreciated by the individual.

Moreover, the nerve supply of the actual organ is relatively poor. It is well known that extensive ulcerations and large fæcal concretions may exist in the appendix without the patient being conscious of them, and certainly without the production of symptoms which could be ascribed to colic. It is impossible to avoid the conviction that "appendicular colic" must be relegated to the vast domain of medical imagery:

(2) It is needless to say that the very great majority of examples of perityphlitis depend upon trouble in the appendix, but I am convinced that now and then the peritonitis is started by mischief in the cæcum itself, the appendix being sound. I do not allude to cases of epithelioma and actinomycosis of the cæcum, nor even to tuberculous disease of that organ, but to examples of non-malignant, non-parasitic ulceration of the bowel. I am quite aware that when the cæcum is found perforated at the bottom of a perityphlitic abscess the perforation has usually come from without and the appendix is the offending organ. I am also aware that an attack of perityphlitis may be brought about by changes in the appendix of so slight a kind as to escape notice in a casual examination. In spite of these admissions I have no doubt whatever of the existence of true peritonitis due to primary ulceration of the cæcum, and in my article on this subject in Professor Allbutt's forthcoming "System of Medicine" I hope the evidence I have adduced as to this point will be at least worthy of attention.

(3) The etiology of perityphlitis has not been rendered more lucid by the exuberant analytical discourses which some authors have expended upon this attractive subject. One American writer, in his account of the:

clinical phases of this affection, tabulates no fewer than thirteen varieties. I would not venture to add to this confusion except to the extent of hazarding the suggestion that the etiology of perityphlitis is comparatively simple. A catarrh leading to ulceration would appear to be the commonest factor, and it is this condition which precedes that stricture of the appendix which is so frequently discovered. The calcareous material found in the fæcal plug, fæcal concretion, or enterolith of the appendix is derived from the copious catarrhal discharge, and I take it that the origin of the appendix "calculus" is exactly identical with that of the rhinolith met with in the nasal passages as an occasional result of chronic coryza.

Most patients who have had attacks of perityphlitis are advised to avoid articles of diet containing seeds, there being a popular impression to the effect that the appendix has some selective power for seeds, that it can extract them with cunning art from the fæcal mass in the cæcum, and, moreover, that it is a veritable trap for these particular foreign bodies. Those who are acquainted with the size of the lumen of a normal appendix cannot be other than amused at the idea of a cherry stone or a grape stone finding its way casually into this diverticulum.

Foreign bodies, seeds, and fruit stones play practically no part in the etiology of perityphlitis. It is true that in a few reported cases foreign bodies have been found in the little organ, but these have been mostly small shot, pins, fragments of nutshell, and bristles. In no case of perityphlitis with which I have had to deal have I ever found a genuine foreign body in the appendix. The appendix has, however, a remarkable power of mimicry in the production of its concretions, and its imitations of certain seeds and fruit stones is often very wonderful. The smallest concretions are usually mistaken for fig seeds and tomato pips until cut into. The concretions next in size lead to the imitation of grape stones and orange pips. The imitated grape stones are often most deceptive in both shape and color. The largest concretions may now and then resemble date stones with some exactness, but a slight examination will usually reveal the deception. The most remarkable imitations are afforded by cherry stones and grape skins. I have met with concretions so exactly like cherry stones in every external particular that only a division of the false seed has made manifest the constructive details. Collections of tough greenish-purple mucus may readily convince the observer that he has met with a portion of a grape skin rolled up into a cylinder to fit the tube of the appendix.

(4) In the matter of statistics we have as yet by no means reached finality. Dr. Porter<sup>1</sup> is answerable for the following figures: The collected cases are 448 in number. In 151 instances the appendix was

<sup>1</sup>*Amer. Journ. Med. Sc.*, 1893.

removed during the attack, with a mortality of 19.7 per cent. In 14 examples the removal was effected during the quiescent period, with the astounding death rate of 14 per cent. ; 188 cases treated by simple incision and drainage yielded a mortality of 18.19 per cent. In 95 examples treated medically, the death rate was 13.68 per cent. One of the most important points suggested by these statistics is the general mortality of perityphlitis. A common death rate given by the authors is about 14 per cent. This percentage is, I think, mainly derived from hospital cases (in-patients), and is probably not inexact for this class of case. But it is to be remembered that the cases admitted into hospital wards are practically those only which are severe. The slight cases would not demand, and would probably not be granted, admission. As a result of my inquiries, which include cases of all kinds, from the extremely acute outbreak to the attack which lasts forty-eight hours or less, I am of opinion that the general death rate of perityphlitis is to be estimated at about 5 per cent.

If an abscess form, then the mortality may run up to 30 or 40 per cent. In the great majority of instances the subject of a perityphlitic abscess is, by reason of that abscess, cured of his trouble should he survive. The abscess may close and break out again, and this circumstance may be more than once repeated. A troublesome sinus may be left. The patient may succumb to the results of continued suppuration, but so far as a definite attack of perityphlitis is concerned—as distinguished from mere abscess troubles—he is in most instances exempt. The risk of removing the appendix during the quiescent period—as first proposed by me in 1888—is in my experience less than 1 per cent., and I believe, therefore, that the danger of that operation is less than that of an ordinary attack. I believe that the majority of the attacks of perityphlitis are single, but it is scarcely possible to express in reliable figures the risk to which a patient is exposed of having other attacks after the first outbreak.

(5) As regards the question of surgical treatment I have had no reason to alter the opinion expressed some years ago that in dealing with cases during an attack an operation is seldom called for before the fifth day. Terms too strong cannot be used to condemn the practice of immediate operation: by that I mean the exposing of the appendix as soon as the diagnosis has been made. There is no sound basis for this procedure in either the pathology or the clinical prospects of the affection. It is not to be disputed that a fatal attack may commence mildly, and that it is not possible to foretell the degree of an attack by its mode of onset. The course of perityphlitis is, however, not so erratic as some maintain, and careful observation of each movement of the disease is not an unreliable basis for treatment. It is true that some intense attacks end in death in forty-eight hours, but, if the whole range of the disease be reviewed, it is



safe to say, with precision of language, that these terrific phases of the malady are exceedingly rare on the one hand, and are not difficult to recognize on the other.

In such extreme examples an operation cannot be done too soon. The assurance that simple incision is attended by a death rate of 18.18 per cent. is not an encouragement to operate as a matter of routine. I need not add that evidence or strong suspicion of the presence of pus indicates immediate interference, and a like course is clear should the swelling continue to increase with no abatement of the fever and other symptoms.

There are few inflammatory affections in which leeches act in a more remarkable manner than they do in perityphlitis. If five or six be applied early, as soon as the local manifestations are present, the effect is in many cases most satisfactory. In not a few instances in which operation has appeared imminent, it has been rendered unnecessary by leeching.

The bacterium coli commune—the most usual active organism in the production of perityphlitis—has peculiar pyogenic powers. Pus may, on the one hand, be produced in an incredibly short time, while, on the other hand, the inflammatory process may hold an indefinite position for many days, the swelling neither subsiding nor giving evidences of suppuration; and then when even so long a time as two weeks have elapsed the definite phenomena of abscess may come to the front. In these hesitating swellings leeches often act admirably. At least they give immediate relief, and the punctures do not compromise any future operation.

When an abscess is evident or suspected the locality of the incision must be determined by the area of dulness and of resistance. Should the wound be made so far to the inner side as to miss the collection and open the peritoneal cavity that incision should be closed, and a fresh incision made at a point where the evacuation of the pus within the enclosed area can be effected. The incision should be free; the abscess cavity is gently examined as to its position and extent, and information obtained as to the situation of diverticula. These diverticula can be cautiously opened up with the finger. No elaborate search should be made for the appendix. Such search means risk to the frail abscess wall, and to that often feeble barrier of adhesions which isolates the pus from the general peritoneal cavity. Continued trouble may follow from a retained concretion, and as such a substance is usually easily to be felt it should be sought for and removed. Should the diseased appendix actually present itself, it can be ligatured and taken away. The high mortality accredited to this operation depends, I cannot help thinking, upon a blind resolve to excise the vermiform process at all hazards. The operation is concerned with the evacuation of an abscess, and those cases do best in which the least is done,

provided that a free evacuation of the pus has been secured. The cavity does not need to be squeezed ; it does not call for irrigation nor for sponging out, and least of all for scraping. As for drainage, nothing answers better than the iodoform gauze drain properly cut and carefully introduced.

One of the strangest features in the literature of this disease is presented by the numerous methods described for opening the abscess and for knowing the appendix. These are generally discussed with much apparent subtleness under the fascinating title of the "technique of the operation." We have Smith's method and Brown's method and Robinson's method, to say nothing of sundry combination or co-operative procedures such as Brown's incision in Smith's line, followed by Robinson's mode of suturing. If we can learn anything from the past history of surgery, this savors of a retrograde movement. The treatment of a diseased appendix involves no new surgical principle and calls for no labored inventions. The treatment of the abscess is based upon those great general principles which underlie the treatment of all abscesses, and the removal of the little organ demands no departure from those accepted procedures which belong to the common lore of surgery.—*British Medical Journal*.

## PIONEERS OF ANÆSTHESIA.

### I. WILLIAM THOMAS GREEN MORTON.

WILLIAM THOMAS GREEN MORTON, to whom more than to any other man it is due that surgery has been robbed of the greater part of its terrors, and that, in the words of Oliver Wendell Holmes, "the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever," was born on August 19, 1819, at a farm in the township of Charlton, Massachusetts, U.S.A. The embarrassed circumstances of his father made it necessary for him to leave school and begin to earn his own living at the age of sixteen. This he managed to do in one way or another till he was twenty-one, when a small legacy enabled him to enter as a student of dentistry at the Baltimore College of Dental Surgery, a chartered institution in affiliation with the Washington University of Medicine of Baltimore. In due course he established himself as a dentist in Boston, where he soon acquired a large practice, his professional income about 1846 being some \$20,000 (£4,000). His ambition, however, was to be a physician, and to this end he made time in the midst of his work to pursue the necessary course of study. On March 20th, 1844, he entered his name as a student of medicine under Dr. Charles Thomas Jackson, of Boston, a well-known practitioner who had won considerable distinction as a chemist. In November, 1844, he matriculated in the Harvard Medical School. He attended all the lectures there, but it does not appear that he graduated at Harvard. In 1852, however, the honorary degree of M.D. was conferred upon him by the Washington University of Medicine of Baltimore, in the Dental School of which he had been a student.

Almost from the out set of his career as a dentist Morton's attention had been directed to the means of deadening, or, at least, blunting, the sensibility to pain in operations on the teeth. He made experiments with various opiates and other agents, even trying mesmerism, but without success. In 1844 he thought for a moment that he had found the "sweet oblivious antidote" he was seeking for. In July of that year a lady came to him to have a tooth stopped. As she was extremely sensitive to pain,



Morton applied chloric ether, which had been used by other dentists for the same purpose, to the hollow to lessen its sensibility. He found to his surprise that after this not only was the cavity in the tooth insensitive, but the surrounding parts were also benumbed. Referring to this matter, he says :

“The idea instantly occurred to me that if I could devise some means for bringing the whole system under the influence of ether, it would be a most valuable means of relief in more intense or more diffused pain.”

He made a number of experiments with chloric ether on animals of various kinds, but the results were not encouraging.

In December, 1844, Morton assisted Horace Wells, whose pupil and partner he had been, in a public exhibition of “painless tooth-pulling” under the influence of nitrous oxide, the pain-subduing properties of which had been clearly indicated by Humphry Davy in 1799. The exhibition was a failure, which covered not only Wells but his assistant with ridicule. Morton did not, however, allow this misadventure to discourage him from further efforts. Nitrous oxide having, as he believed, proved a deception, he looked about for something else. Dr. Jackson, whose pupil he had been, seems to have suggested that he should try sulphuric ether. The inhalation of this substance in chest diseases and other conditions had a recognized place in therapeutics, and it was known to chemists that exposure to the vapor in a concentrated form would cause unconsciousness. No one, however, seems to have thought of using an agent believed to be so dangerous in order to produce insensibility to pain. Morton lost no time in acting on the hint which he had got from Jackson. He experimented on himself, inhaling ether alone and mixtures of ether with opium and morphine, from retorts wrapped in hot towels, and paying the penalty of his scientific ardor in many racking headaches. In the spring of 1846 he succeeded in bringing a fowl under the influence of ether so far that he was able to cut off its comb without any demonstration of suffering on its part ; similar experiments on other animals were still more satisfactory. There still remained the crucial experiment on the human subject. This Morton, with the courage of the true scientific explorer, performed on himself, on September 30, 1846. The account of this historic event is best given in his own words :

“Taking my tube and flask, I shut myself in my room, seated myself in the operating chair, and commenced inhaling. I found the ether so strong that it practically suffocated me, but produced no decided effect. I then saturated my handkerchief and inhaled it from that. I looked at my watch, and soon lost consciousness. As I recovered I felt a numbness in my limbs and a sensation like nightmare, and would have given the world for someone to come and arouse me. I thought for a moment

I should die in that state, and that the world would only pity or ridicule my folly. At length I felt a slight tingling of the blood in the end of my third finger, and made an effort to press it with my thumb, but without success. At a second effort I touched it, but there seemed to be no sensation. I gradually raised my arm and pinched my thigh, but I could see that the sensation was imperfect. I attempted to rise from my chair, but fell back. I immediately looked at my watch, and found that I had been insensible between seven and eight minutes."

As may easily be conceived, he felt a thrill of triumph at having at last wrested from Nature the priceless secret which she had hidden so long and so jealously from suffering mortals. We are enabled by Mr. E. L. Snell (*Century*, August, 1894) to give the record of the final victory in Morton's own words, as reported by a lady—a fact which may account for a certain want of precision in details:

"I had become much excited (he says), and had determined that I would not leave the office until I had seen something more of the power of this new agent. Twilight came on, but in my present state I felt it to be impossible to go home to my family. As the evening wore away, my anxiety increased. The hour had long passed when it was usual for patients to call. I had just resolved to inhale the ether again and have a tooth extracted under its influence, when a feeble ring was heard at the door. Making a motion to one of my assistants who started to answer the bell, I hastened myself to the door, where I found a man with his face bound up, who seemed to be suffering extremely. 'Doctor,' said he, 'I have a dreadful tooth, but it is so sore I cannot summon courage to have it pulled. Can't you mesmerize me?' I need not say that my heart bounded at this question, and that I found it difficult to control my feelings; but putting a great constraint on myself, I expressed my sympathy for the man, and invited him to walk into the office. There were no instruments in sight to terrify him, and the ether was close at hand, every arrangement having been previously made in the hope that a similar case might occur. I examined the tooth, and in the most encouraging manner told the poor sufferer that I had something better than mesmerism, by means of which I could take out his tooth without giving him pain. He gladly consented, and, saturating my handkerchief with ether, I gave it to him to inhale. He became unconscious almost immediately. It was dark. Dr. Hayden held the lamp. My assistants were trembling with excitement, apprehending the usual prolonged scream from the patient, while I extracted a firmly rooted bicuspid tooth. I was so much agitated that I came near throwing the instrument out of the window. But now came a terrible reaction. The wrenching of the tooth had failed to rouse him in the slightest degree. Instead of the quick start of relief with which a patient

usually leaves the operating chair the moment the instruments are withdrawn, he remained still and motionless as if already in the embrace of death. The terrible thought flashed through my mind that he might be dead—that in my zeal to test my new theory I might have gone too far and sacrificed a human life. With the rapidity of lightning my mind ran through the whole process of my investigations up to the present hour. I trembled under the sense of my responsibility to my Maker and to my fellow-men. The question, Can I restore him to consciousness? startled me into action. I seized a glass of water and dashed it into the man's face. The result proved most happy. He recovered in a minute, and knew nothing of what had occurred. Seeing us all standing around, he appeared bewildered. I instantly, in as calm a tone as I could command, asked, 'Are you ready to have your tooth extracted?' 'Yes,' he answered, in a hesitating voice. 'It is all over,' I said, pointing to a decayed tooth on the floor. 'No!' he shouted, leaping from the chair.

"The name of the man who thus for the first time underwent an operation under anæsthesia induced by ether was Eben Frost."

The next step was to make the discovery known to the world. This was done in the Massachusetts General Hospital, where, on October 16, 1846, Morton, in the presence of a large number of medical men, administered ether to a man named Gilbert Abbott, who was to be operated on for a vascular tumor under the jaw on the left side. Dr. John J. Warren, the senior surgeon of the hospital, who had given Morton permission to try the effect of ether in the case, was the operator. The experiment was completely successful. Morton's widow (who is still alive) thus described the anxiety which she felt on that memorable day:

"In those few hours (she said to Mr. Snell) I learned to realize what is meant by the agony of suspense. I have heard it often predicted that he would kill somebody by his experiments. My mind recoiled from such a thought with horror, and yet was forced to dwell upon it. I knew not what minute a messenger might arrive with the information that my husband had been arrested for manslaughter. When he returned, there was that in his face which told me, before he opened his lips, that he had triumphed."

In spite of this triumphant demonstration of the pain-annulling power of the new agent, surgeons were naturally unwilling to sanction its general use in operations until they knew what it was. On November 6 Morton addressed a letter to Dr. Warren, to be communicated to the surgical staff of the hospital, in which he offered to disclose its composition, and also to allow it to be used as freely as was reasonable. On November 7 the first amputation under ether was performed by Dr. Hayward, who removed the leg of a young woman named Alice Mohan; on the same day Dr.



Warren resected a portion of the lower jaw in another patient. In both cases the procedure was absolutely painless. Soon dislocations were reduced, and all kinds of surgical operations were performed under ether with complete success ; a knowledge of its anæsthetic properties quickly spread over the civilized world, and a new era in surgery had begun.

Then came the inevitable dispute as to priority. Horace Wells and C. T. Jackson each claimed the discovery for his own. Wells, as has been said, had been working at the subject both in conjunction with Morton and independently, and in December, 1844, he had a tooth extracted under the influence of laughing gas without feeling any pain. Further experiments, however, were unsuccessful. To Jackson may be allowed the credit of having suggested the use of ether to Morton, in conjunction with whom he took out a patent for the discovery. The patent, which is dated November 12, 1846, sets forth that "we, Charles T. Jackson and William T. G. Morton, . . . have invented or discovered a new and useful improvement in surgical operations on animals, whereby we are enabled to accomplish many, if not all, operations such as are usually attended with more or less pain and suffering without any or very little pain to, or muscular action of, persons who undergo the same." But if Jackson suggested the use of ether, to Morton alone belongs the credit of having proved its effect by actual experiment, and of having transmuted a vague hint into a discovery which is one of the great landmarks of human progress.

Like most benefactors of the human race, Morton reaped little reward for his work. He was indeed presented by the Trustees of the Massachusetts General Hospital, in 1848, with a silver box containing a thousand dollars, with an inscription concluding with the words, "He became poor in a cause which has made the world his debtor." He also received a divided Monthyon Prize from the French Academy of Sciences, and orders were conferred upon him by the Governments of Russia and Norway. His appeals to the legislature of his native country for remuneration for the use of his discovery in the army and navy were, however, unsuccessful. In two sessions Bills favorable to his claims were passed, and on one occasion the President of the United States is said to have actually taken up the pen to sign a grant, but, pausing to consult a member of the Cabinet who was with him, laid it down without appending his name to the document. On the whole, the result of Morton's discovery to himself was that his life was embittered by ignoble controversies ; he lost money, health, and happiness, and after twenty years of weary struggle he died, a broken and disappointed man, on July 15, 1868.

Morton was not a man of cultivated mind, nor had he the intellectual temper or the training of the scientific discoverer. He had, however, the

boldness and the dogged perseverance of the explorer, and these qualities enabled him to do what men, made cautious by greater knowledge, would have feared to undertake. If he was helped in one way or another by Wells and Jackson, it remains true that Morton was the only man without whom anæsthesia might have remained unknown. His name is, with those of Motley, Emerson, Hawthorne, Lowell, Franklin, and Agassiz, among the fifty-three "most distinguished citizens" whose names are inscribed upon the base of the dome of the new chamber of the House of Representatives in the Massachusetts State House at Boston. Over his grave in Mount Auburn Cemetery, near Boston, a monument was not long ago erected "by citizens of Boston," bearing the following inscription from the pen of the late Dr. Jacob Bigelow, which fitly sums up the work Morton did for mankind:

WILLIAM T. G. MORTON,

Inventor and Revealer of Anæsthetic Inhalation,  
By Whom Pain in Surgery was Averted and Annulled,  
Before Whom, in all time, Surgery was Agony,  
Since Whom Science has Control of Pain.

## II. HORACE WELLS.

Horace Wells was born at Hartford, Connecticut, on January 15, 1815. He became a dentist, and had W. T. G. Morton first as his pupil and afterwards as his partner in that profession. Both of them were interested in the search of some means to render operations on the teeth painless. After a time Wells returned to Hartford, where, on December 11, 1844, he was present at an exhibition of the effects of nitrous oxide gas given by a popular scientific lecturer named Colton. One of the audience on that occasion, while under the influence of the gas, bruised his shin severely by stumbling over a bench without feeling any pain at the time. This incident made such an impression on Wells that he at once proceeded to test the anæsthetic effect of laughing gas on himself. Being troubled with a raging tooth, he inhaled the gas and had it extracted by another dentist named Riggs. The experiment was successful, and Wells, on recovering consciousness, exclaimed, "A new era in tooth-pulling! It did not hurt me as much as the prick of a pin. It is the greatest discovery ever made." After some further successful trials, Wells went to Boston, where, assisted by Morton, he gave, in the presence of a number of medical practitioners and students, an exhibition of "painless tooth-pulling" under the influence of nitrous oxide gas. The demonstration, however, was given to an accompaniment of dismal groans from the patient, and those who witnessed it pronounced the thing to be humbug.

and Wells an impostor. The cause of failure was, according to Wells, that the gas-bag was removed too soon. In his own words, "the excitement produced by this adventure brought on a protracted illness, which compelled him to relinquish professional business entirely." He was ill for eighteen months. On his recovery, in 1846, he went to France, where he made his discovery known to the Academy of Sciences. After Morton's first administration of ether he made, as appears from the following letter, dated October 19, 1846, a proposal to Wells to help him in working the patent :

"I have discovered a preparation by inhaling which a person is thrown into a sound sleep ; the time in which a person remains asleep can be regulated at pleasure. While in this sleep the severest surgical or dental operations may be performed, the patient not experiencing the slightest pain. I have patented it, and am now sending agents to dispose of the right to use it. I have used this compound without a single failure in over 160 cases in extracting teeth. My object in writing is to know if you would not like to visit New York and the other cities and dispose of rights."

Wells accordingly went to Boston to see the application of the new anæsthetic, but was not favorably impressed. He pronounced it "dangerous" and "risky," and returned to Hartford determined to have nothing to do with the business. In 1847 he published "A History of the Discovery of the Application of Nitrous Oxide Gas, Ether, and Other Vapors to Surgical Operations." Soon afterwards he became insane, and he died in New York on January 24, 1848.

To Wells undoubtedly belongs the credit which he claims for himself of having established the principle of surgical anæsthesia. The idea that nitrous oxide gas would produce insensibility to pain seems to have occurred to him independently, and he was certainly the first to use it for the purpose. The story of his short life is a sadder one even than Morton's, for it was left to others to bring his work to practical fulfilment, and of the rewards of discovery he had but the thorns without the crown.

### III. SIR JAMES YOUNG SIMPSON.

James Young Simpson, one of the most conspicuous figures in the history of medicine, was born at Bathgate, in Scotland, in 1811. He was the son of a baker and the grandson of a quarryman, and in boyhood he himself was apprenticed to his father's trade. From this position he delivered himself by his own efforts, stimulated by an elder brother. He entered the University of Edinburgh, where he won a classical bursary, which made it possible for him to become a student of medicine. He took



his M.D. degree in 1832, and his inaugural thesis made such an impression on Professor Thompson, who then occupied the chair of pathology, that he made him his assistant. Simpson sometimes lectured in the place of the professor, delighting the students by the novelty of his doctrines and the brilliancy of his exposition. Very early in his professional career Simpson applied for the post of Medical Officer of Innerkip, a little village on the Clyde, and he used to say that his failure to obtain the appointment was one of the bitterest disappointments of his life. He made up his mind to stay in Edinburgh, and in 1837 he became lecturer on midwifery in the extra-academic School of Medicine. In 1840 the chair of midwifery in the University of Edinburgh fell vacant, and Simpson was appointed professor after a severe struggle. How considerable a reputation he had already earned for himself is shown by the fact that the testimonials which he presented filled an octavo volume of more than two hundred pages, and included the names of all the leading obstetricians in this country and on the continent. Placed thus at the age of twenty-nine in one of the most important chairs of a great medical school, Simpson soon showed himself equal to the position. His lecture-room was thronged by eager students, and as years went on old pupils in practice would come again when they had an opportunity to sit at the feet of the obstetrical Gamaliel. His fame quickly spread, and patients came to him from every part of the world. The hotels and lodging-houses of Edinburgh were crowded with his patients. Since the time of the great Dutch physician, of whom it is recorded that a letter from China addressed simply "Dr. Boerhaave, Europe," was duly delivered, probably no medical man has been so widely known as Simpson. Honors were showered upon him. He was elected a corresponding member or associate of many foreign scientific societies. In 1849 he was President of the Royal College of Physicians, of Edinburgh; he was appointed Physician Accoucheur to the Queen in Scotland; he was made a baronet in 1866. In the same year the University of Oxford conferred on him the honorary degree of D.C.L. In 1869 the freedom of the city of Edinburgh was presented to him. He was for many years the most prominent figure in the social life of the modern Athens, and around his hospitable board "lions" of the most diverse breeds roared as 'twere so many sucking doves.

In the midst of his professional work, which would have overwhelmed an ordinary man, he found time for experiments and for writing, not only on medical but on antiquarian and other subjects. Many of his papers were written at night while waiting till his services were required in the lying-in room. The versatility of his mind was not less remarkable than its strength and keenness. His intellectual curiosity was insatiable, his memory prodigious, and his knowledge almost universal. As was well

said of him, he applied his obstetric skill to conversation, and had a happy knack of "delivering" the most casual acquaintance of whatever special information there might be in him.

Simpson's contributions to the literature of the department of medicine which he had chosen for his own are of great value. They include papers on diseases of the placenta, the use of the uterine sound, the treatment of displacements by intrauterine pessaries, etc. His monograph on hermaphroditism is still the *locus classicus* on the subject. In another monograph, entitled "Homœopathy : Its Tenets and Tendencies," he, in Mr. Gladstone's famous phrase, "smashed, shattered, and pulverized" the Hahnemannian heresy. In surgery he suggested acupressure as a means of stopping hæmorrhage, and he made many experiments to determine the best kind of sutures. He was one of the first to call attention to the evils of "hospitalism," and he suggested that a "separate system" should be adopted for patients, instead of aggregating them in crowds in disease-tainted wards. He proposed a scheme for stamping out smallpox by isolation.

When anæsthesia came before the world, Simpson at once gave his mind to the subject. He was the first (in January, 1847) to apply ether to the mitigation of the pain of childbed. Not being altogether satisfied with that agent, however, he set to work to discover some other anæsthetic free from what he considered its drawbacks. He tried a number of different substances on himself, and more than once came near falling a martyr to his zeal for knowledge. He spent many hundreds of pounds and a great amount of valuable time in these experiments. At last, acting on a hint from David Waldie, a Liverpool pharmacist, he tried chloroform, with such success that on November 10, 1847, he read before the Medico-Chirurgical Society, of Edinburgh, a paper, which was immediately afterwards published under the title, "Notice of a New Anæsthetic Agent as a Substitute for Sulphuric Ether." Chloroform soon came into general use in this country in place of ether, and, as Sir B. W. Richardson points out, "the word itself became so common in the vernacular that the people began to recognize it as synonymous with, and more expressive than, anæsthesia." It may have been this fact that led Simpson in the "Encyclopædia Britannica" to deal with the subject of anæsthesia under the heading "Chloroform"; but a less charitable interpretation was placed on his conduct in this matter by many.

There can be no doubt, however, that to Simpson belongs not only the honor of introducing chloroform, but the merit of popularizing anæsthesia both with the profession and with the public. His energetic advocacy bore down all the opposition that ignorance, superstition, prejudice, and scientific jealousy mustered against it. For his work in connection with anæ-

thetia he was elected a Foreign Associate by the French Academy of Medicine in 1853, and in 1856 the Monthyon Prize of 2,000 francs "for the most important benefit to humanity" was awarded him by the French Academy of Science.

Simpson's principal recreation was archæology. He was recognized by experts as one of the leading antiquaries in Scotland. Every moment that he could snatch from other work was given to this pursuit; when called into the country he never lost an opportunity of visiting any Roman camp or other object of interest that might be in the neighborhood. Among his numerous papers on antiquarian subjects may be mentioned those on "Ancient Roman Medicine Stamps," "Was the Roman Army provided with Medical Officers?" "The Introduction of Syphilis into Scotland," "British Archaic Sculptures," and particularly his "Notices of Leprosy and Leper Hospitals in England and Scotland," a rich mine of information which subsequent writers have found a convenient source of supply of cheap learning.

All Simpson's writings are marked by originality of thought, ingenuity of reasoning, and clearness of expression. He was formidable in controversy, and evidently loved the fray. He made enemies, of course, but he was a man of generous nature, and not long before his death he wrote to all whose feelings he thought he might have wounded in controversy asking their forgiveness. He was a man of the greatest kindness of heart, and probably no physician ever saw so many patients without fee. Indeed, in his practice he was always singularly indifferent about money. His vast knowledge and experience of life, combined with his keen sense of humor, made him a delightful companion. His personal magnetism was very great, and he could awe a class of turbulent students or conciliate a dissatisfied patient with a glance.

In his person he was short and thick-set, but a massive, lion-like head, set on broad shoulders, gave such dignity to his appearance that he could stand beside that "mould of form," John Wilson, without being dwarfed into insignificance.

Simpson lived a life of ceaseless intellectual activity and social bustle for thirty years without suffering much in health. He broke down somewhat suddenly at last, and died in May, 1870. His name will live not only as the introducer of chloroform, but as the reformer of obstetric medicine, which he found a despised art and left an honored science.—  
*The Practitioner.*



# Progress of Medicine.

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## SURGERY

IN CHARGE OF

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AND

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### LUMBAR PUNCTURE AS AN AID TO DIAGNOSIS IN CEREBRO-SPINAL MENINGITIS.

In the *Deutsche Medicinische Wochenschrift*, No. 34, 1896, is an article by Dr. W. Holdheim, of the State Hospital in Berlin, on the bacteriological diagnosis of epidemic cerebro-spinal meningitis by means of lumbar puncture. The method is particularly useful in determining the differential diagnosis, not only in the specific disease referred to, but also in tubercular meningitis, and possibly other affections. Dr. Holdheim gives the history of four cases where this method of determining the diagnosis was employed. In all the cases the diagnosis appeared to have been doubtful, and it was correctly established by means of lumbar puncture. The meningococcus intracellularis of Weichselbaum was detected. Fifteen cubic centimetres of the cerebro-spinal fluid was drawn off. From the sediment which forms in the fluid an ordinary cover-glass preparation is made and colored by Loeffler's method. One finds in all preparations leucocytes in rich number containing numbers of diplococci, in many instances as four or five enclosed in the leucocyte. One is struck at first glance with their similarity to Neisser's gonococcus. A pure culture of this meningococcus was also obtained in all four cases; three glycerine-agar tubes were prepared by taking up the fluid after puncture on a sterilized platinum wire and depositing it on the culture medium. Already, after twenty-four hours, there appeared on the surface a fine film. In certain places a knob-like formation occurred, producing a whitish-gray efflores-

cence ; under the microscope this exhibited the characteristic diplococci. A striking peculiarity of these cocci is the relatively strong light-refracting capsule which they possess ; they appear to lie within a brilliant capsule. Frequently the cocci are seen in four, six, or eight pairs lying together, and in old cultures they may even be seen forming long chains. Very strikingly and clearly one may see the median dividing line in the tetra-formed groups of cocci pairs, as described by Jager. A decoloration by Gram's method may generally be brought about, as in the case of the gonococci, but sometimes this fails, the micro-parasites preserving their color.

In these four cases was obtained, during life, a diagnosis of epidemic cerebro-spinal meningitis by lumbar puncture. In three of the cases the diagnosis was verified by a post-mortem examination ; the fourth case recovered. In two of the cases a preparation was made from the purulent material obtained from the surface of the brain after death, and the intracellular diplococci were found in great numbers. Experiments on animals were carried out, but with a negative result. It is likely that by means of lumbar puncture one can thus establish the differential diagnosis between tubercular meningitis and epidemic cerebro-spinal meningitis.

# GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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## THE REACTION OF BLENNORRHAGIC PUS AND OF THE URETHRAL MUCOUS MEMBRANE AND THE EFFECT OF SUCH REACTION ON THE LIFE OF THE GONOCOCCUS.

Dr. P. Colombini, of the University of Siena : The first mention that we find of the reaction of blennorrhagic pus is in 1885. In that year Prof. Martineau said in his appendix to "*Leçons clinique sur la Blennorrhagie chez la femme*" : "The acid reaction of the blennorrhagic liquid is so constant that it is found in both acute and chronic forms, and in every stage of the disease. . . ."

In 1885 Silva, in his work, "*Sulla Blennorrhagia*," said : "Since I have turned my attention to this subject, I have always found the reaction of the pus containing gonococci alkaline. . . . This fact, too, explains why vaginal blennorrhagia is easily cured, the normal vaginal liquid being of acid reaction ; and also why the blennorrhagic complications of cystitis and pyelonephritis are rare, since the acid urine would oppose an almost insurmountable barrier to the propagation of the gonococcus, which lives and develops in an alkaline medium."

Again, Castellan, in 1886 (*Bulletin générale de thérapeutique*), declared that he had determined the acidity of the blennorrhagic pus, taking that which was extracted by moderate pressure on the urethral meatus before the patient had urinated in the morning. He related twelve cases in which he found the pus always acid.

Dr. Colombini then refers to several other experimenters, who differ in their results and opinions. He himself has examined the blennorrhagic pus in 235 cases, and in twelve found the reaction neutral, while in the 223 other cases the reaction of the secretion was constantly alkaline. Moreover, the mucuous membrane of the urethra is normally alkaline in reaction, and becomes so again almost immediately after it has been bathed by acid urine during micturition.



In summing up, Dr. Colombini says : " We have seen that the reaction of the blenorrhagic pus in which the gonococcus lives is alkaline ; we have also seen that the reaction of the urethral mucous lining in which the gonococcus lives, develops, multiplies, is constantly alkaline. We have also seen in our researches that the normal acid urine is not a medium favorable to the life of the gonococcus. Such fundamental facts would manifestly lead us to admit that the alkaline reaction of the medium is the condition particularly favorable to the life of the gonococcus itself. But my further experiments have shown me that the normal acidity of the urine, mingled with agar, does not at all prevent the development of the gonococcus, and that in albuminous urine, whether strongly acid or slightly alkaline, the gonococcus finds a very good medium for its life.

On the other hand, Finger, Schlagenhauser, Vaughan, and Brooks have experimentally found that the gonococcus develops well in acid media, and little or not at all in alkaline media.

Given the accuracy of these researches and findings, we must deduct that the reaction of the blenorrhagic secretion and of the urethral mucous lining has no importance whatever in relation to the progress or cure of blenorrhagia, the gonococci living and multiplying equally in the urethra, with reaction always alkaline, and in artificial nutritive media, strongly acid in reaction.—*Geornale Internazionale delle Scienze Mediche*, July 15, 1896.

W. H. S.

## HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

WILLIAM OLDRIGHT, M.A., M.D. Tor.,

Professor of Hygiene in the University of Toronto ; Surgeon to St. Michael's Hospital ;

AND

E. HERBERT ADAMS, M.D., D.D.S.

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### CONCENTRATED MILK.

A writer in the *British Medical Journal* has called attention to the value of concentrated milk in certain forms of diarrhoea and in wasting disease, and especially in cases in which the patient is unable to take other nourishment, and cannot take a sufficient amount of milk in its ordinary diluted form to meet the demands of the body. Concentrated milk is prepared by evaporating the milk in a porcelain dish over some suitable heating apparatus, care being taken to see that the liquid does not boil and to stir it continually. By this means cream is prevented from rising, and the evaporation is not delayed by the formation of a scum over the surface. With proper apparatus and attention milk may be reduced to one-half its volume in one hour.—*New York Medical Times*.

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### SCHOOL HYGIENE.

The committee on *School Hygiene*, of Illinois, reported sundry bad conditions of the schoolhouses throughout the State, and urged the necessity of teachers paying more attention to the advice of the medical profession with regard to the personal hygiene of the pupils, urging that :

“It should be a live principle with all teachers that the acquisition of dead knowledge should never be gained at the cost of vital forces. That the progress of a few talented pupils should not be accelerated to the disadvantage of the less favored great majority, and that accurate observation and a logical method of thinking are the main factors of the human mind, by means of which the children will be able to reconstruct whatever they have once thoroughly understood.”

## DRINKING WATER.

The necessity for health of a pure supply of drinking water was long ago recognized. For example, the Romans preferred the cost of nine aqueducts connecting the city with the surrounding hills, and furnishing three hundred gallons per head daily, to drinking from the Tiber which flowed through their midst ; and there is reason to believe that at a much earlier date the Chinese and Egyptians took the trouble to bore artesian wells of great depth in search of an efficient supply.

The purity of water depends, of course, not only upon its source, but upon its freedom from subsequent contamination as well. One of the first and most important duties of the public officers of cities, towns, or villages is the careful oversight of the water supply, and in these days immense sums are constantly being spent in connection with this matter. For example, the city of London is now considering the question of abandoning the Thames as a source of supply, and of bringing water for its enormous population from hills many miles away. In like manner, all over the world care is being taken to procure a source as pure as possible, and by means of a sometimes complicated series of filters to still further reduce the risks of impurity before it reaches the pipes for distribution. But after it has entered these it is by no means certain that it will reach the consumer uncontaminated. In some places it is doled out on what is termed the *intermittent* system ; that is, each house is furnished with one or more cisterns, which are filled during the short fraction of the day in which the water is allowed to run. While this is economical in several respects from the point of view of the water company, it is accompanied by so many dangers to health that as a system it is on the decline. Thus, the water must be stored on the premises, where it is apt to absorb deleterious gases, as in water-closets, etc.; is apt to be stored in improper receptacles, and to be polluted by insects, mice, etc., besides which it becomes comparatively flat and insipid. Cisterns are safe only when frequently cleansed, when made of stone, slate, or galvanized iron, when exposed to the light and air, and covered, and when entirely disconnected directly with water-closets or drains.

While the *constant* system requires continual care of pipes and taps to prevent great waste, and may therefore be expensive, it has the great advantage that no house storage is required except in the water-closet cisterns and a small cistern for the kitchen boiler. Dangers in connection with the constant system exist where water-closets are flushed by a pipe and tap direct from the house main without the intervention of a cistern, for, when the tap is left unscrewed and the water is turned off at the main, foul liquids or air may be sucked up into the pipes and gain entrance to



the water-mains. The suction is the result of leakage from the pipes (a common occurrence), which causes a partial vacuum within them. Several epidemics of typhoid fever have occurred in this manner. There is danger in the same way, when water mains and sewers are laid in one trench, that leakage from the sewers may reach the interior of the water pipes when the company's officials turn off the water for some purpose, frequently a daily occurrence.

But the dangers from these services are minute compared to those connected with the use of such shallow wells as are common in many districts, many of which are apparently unprotected at the mouth, and have walls of a porous nature. Seeing that the presence of excrementitious matter may by no means affect the palatability of water, and that a well drains an area surrounding it equal to from fifteen to one hundred and sixty times the depth of the well (depending upon the nature of the soil), it would be safe to assert that a great many persons are consuming daily such suspended or dissolved matters as would greatly disgust them did they know it. Certain it is that all shallow well water, however clear and sparkling, in the neighborhood of human habitations, is suspicious, as are many in more sparsely peopled districts, and that especially in the presence of epidemic diarrhoea and enteric fever, before being drunk, it should always be subjected to some process of artificial sterilization. In fact, there can be no doubt that the annual mortality figures would be considerably lessened were all waters used only in the cooked condition.—*Atlanta Medical and Surgical Journal*.

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#### THE PREVENTION OF CHOLERA.

The beneficial effects of careful sanitary inspection and precautions against cholera are well brought out in the recent report of the medical officer of the British Local Government Board. The history of the cholera epidemics of 1848 and 1853, which reached England by the northern route, through Russia, North Germany, and the North Sea ports, was in each case that of a severe outbreak in the year following its arrival. Thus in 1848 1,105 persons died of cholera, and the next year 53,293; in 1853 there were 4,419 cholera deaths, and in 1854 no fewer than 20,097. In 1892 cholera arrived in Germany by the same route, but the British Government sent out a number of special medical officers who carefully investigated the sanitary condition of the country, paying special attention to the seaports, and with sufficient powers for the suppression of nuisances. Owing to the precautions taken no case occurred in England in 1892, but there were 135 deaths in 1893, a small number when we consider the greatly increased source of infection in these times of close

international communication. It was feared that 1894 would see a considerable outbreak, but on the contrary, owing to the extraordinary care taken, not one death took place in that year. From the financial point of view Dr. Thorne-Thorne has been able to prove that the value of the life saved more than outweighs the expense incurred.

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#### OUR DECREASING BIRTH-RATE.

Figures lately compiled and published by Dr. J. S. Billings, the best American authority on vital statistics, show that the birth-rate in America is on the decline, and this fact has not failed to attract the attention of the press—lay, medical, and scientific.

In 1880 the birth-rate per 1,000 in the United States was 30.95. In 1890 it was 26.68; a decrease of 4.27 per 1,000 of population in ten years. The decrease in the different States appears to have been nearly uniform. In Maine it was 3 per 1,000; in New York, 1.65; in Pennsylvania, 3.30; in Indiana, 4.70; in Kansas, 5.67; in California, 3.72; in Louisiana, 5.50; in Texas, 9.47; in Kentucky, 4.90; in Georgia, 6.50; in Virginia, 7.76; and in other States in about the same proportion. The decrease was greatest in Massachusetts—11.67.

One cause of the decrease is said to be the drifting of the population toward the cities. Another, and probably more important, factor is the desire of the *fin-de-siècle* woman to enjoy to the full the artificial and acquired "functions" of society, instead of the natural and instinctive functions of womanhood. Child-bearing, with all the self-sacrifices which this truly physiological condition imposes, is indeed not compatible with cotillions, euchre parties, and receptions. Therefore it is said that "woman's vanity threatens the race."

The declining birth-rate in France is well known, and it has excited some uneasiness among that patriotic people. Recourse has been had to legislation; societies have been formed to consider and devise ways and means of holding up the birth-rate; premiums have been offered on large families, etc.; but the babies are not forthcoming.

It is said that a diminishing birth-rate has presaged the decline and fall of nations, notably Greece and Rome. Is a similar destiny in reserve for France and America?

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#### RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF ONE THOUSAND CASES OF SUSPECTED DIPHTHERIA.

Drs. Hewlett and Nolan publish a review of results of the bacteriological examination of specimens from one thousand consecutive cases of suspected diphtheria, forwarded by medical officers of health and practitioners

from all parts of the kingdom to the institute for diagnosis. In five hundred and eighty-seven cases the diphtheria bacillus was found, in four hundred and nine cases it was not found, and in four instances there was doubt as to its presence. Two specimens were from cases of conjunctivitis : in one the diphtheria bacillus was found ; in the other, which was associated with faucial diphtheria, only the streptococcus pyogenes. In one instance specimens were taken from the fauces and from the vagina of the same case, and bacilli were found in each. In another, a pure culture of the diphtheria bacillus was obtained from a severe case in which the infection of the throat probably originated from a diphtheritic wound of the finger incurred during laboratory work. Examinations were also made to determine the time of disappearance of the bacilli from the throat. This was found by them, as it had been by former observers, to be exceedingly variable. The bacilli were commonly found for two or three weeks ; in one instance they remained for seven weeks, in another for nine weeks, and in another for twenty-three weeks. In the latter case they remained virulent for guinea-pigs. In conclusion, the authors insist upon the desirability of a bacteriological examination in all cases in which the throat symptoms are at all doubtful, as many of their cases which were not regarded clinically as diphtheria proved to be such. They also emphasize the necessity of repeated examinations after convalescence, with isolation, until the absence of the infective agent has been shown.—*British Medical Journal.*



## Editorials.

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### THE JUBILEE OF ANÆSTHESIA.

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FIFTY years ago, on October 16, ether was first administered during a surgical operation, by Dr. Morton, a dentist, in the Massachusetts General Hospital, Boston. The fiftieth anniversary of this important event has been duly celebrated in various parts of the world, but especially in Great Britain and North America. *The Practitioner* devotes its October issue to the subject of anæsthesia, and gives many interesting facts connected with its discovery and discoverers. Dr. Morton, the young dentist, after experimenting with ether for some time, was anxious for an opportunity of using it for surgical purposes. After a time Dr. J. Collins Warren, the senior surgeon of the hospital, decided to give him the chance. On the morning of October 16, a large number of doctors met in the theatre to witness the experiment. Morton was late, and the doctors thought he was afraid to put in an appearance. After a time Dr. Warren said: "As Dr. Morton has not yet arrived, I presume he is otherwise engaged." This remark caused derisive laughter. When Dr. Warren was about to begin his operation, Dr. Morton entered the theatre. Dr. Warren said to him, coldly: "Well, sir, your patient is ready." Morton then administered the ether, and when the patient became unconscious said quietly to Warren: "Your patient is ready, sir." *The Practitioner* goes on to say: "The surgeon's knife did not awake the patient from the deep sleep into which he was cast, and the spectators looked on with wonder deepening into stupefaction. When the operation was over Dr. Warren said, in a solemn tone: "Gentlemen, this is no humbug."

On December 19, 1846, ether was administered in the house of Dr. Boot, 24 Gower street, London, England, by Mr. Robinson, a dentist, who extracted a tooth while the patient was unconscious. On December 22, Robert Liston amputated a limb under ether, in University College Hospital, and *The Practitioner* says so intense was the emotion of the great surgeon on the occasion that when he turned to address the specta-

tors after the operation he could hardly speak. It also says that the glory of the discovery of anæsthesia is shared by three men. The world is indebted to Horace Wells for nitrous oxide gas, to Morton for ether, to Simpson for chloroform. Very interesting sketches of the lives of these three men also appear in this October number, which we publish in this issue of THE CANADIAN PRACTITIONER.

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BRITISH MEDICAL ASSOCIATION—MONTREAL, AUGUST  
31ST, 1897.

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ACTIVE steps are now being taken in Montreal, in connection with the forthcoming meeting. All the necessary local committees have been appointed, and are busily at work. The honorary local secretaries are : Dr. J. G. Adami, correspondence with England ; D. J. Anderson Springle, Canadian and American correspondence ; Dr. E. P. Benoit, French and French-Canadian correspondence.

Offices have been taken at 2204 St. Catherine street, Montreal, to where all correspondence should be addressed. It may here be pointed out that none but members of the association, or specially invited guests, are allowed to be present at the meetings and to take part in the discussions.

All properly qualified British subjects can become candidates for membership. Applications for membership of any branch must be accompanied by certificates of recommendation from three who are already members of the association, two of whom must certify from personal knowledge of the applicant. The secretaries of the various branches will provide the necessary forms of application. It is recommended that those wishing to be present at the meeting next year should send in their applications to the Montreal, Halifax, Winnipeg, or British Columbia branches almost immediately, so that they may be elected at the December meeting and receive the journal (*British American Journal*) of the association from the beginning of the year. The subscription for membership, including the regular delivery of the journal, is \$5.50 per annum.

There is a unanimous desire on the part of the members of the Montreal branch of the association that the coming meeting shall be regarded, not as a local event, but as a welcome to the association from the whole Dominion. To this end, not only the presidents of the various branches of the association, but also the presidents of the Dominion and Provincial Medical Associations have been placed upon the Executive Committee.

Further signs of this desire to make this in no sense a local affair will be forthcoming shortly.

With reference to the presence of American practitioners at the meeting of the Montreal branch, the branch finds itself in a position of some little delicacy. Members would very willingly invite practitioners across the border to become members of the association, but, unfortunately, there is a recent by-law to the effect that none but British subjects can gain membership. The hope to have the by-law amended is destroyed by the occurrence next year of the International Medical Congress at Moscow. To amend the by-law would throw the association open to the charge of attempting to promote a rival international meeting. It is to be understood that in the present condition of politics it would be a grave mistake for the association to throw itself open to this charge. It has, however, been the custom in previous years to invite a series of guests to the meetings, and, acting on this precedent, the leading American authorities in the various branches of medicine will undoubtedly be asked to attend at Montreal.

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#### "THE DOCTOR HIMSELF."

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**I**S there any difference, physiologically or pathologically, between pure air and impure air? Is air, mixed largely with exhalations from the lungs and skin, good healthy air to breathe? When we tell people it is not, are we talking up some theoretical fad or stating a fact of practical importance? We are impelled to ask these questions because we have gone into rooms pretty well crowded with learned doctors earnestly discussing the causes, and sometimes the treatment, of disease with doors and windows closed, and no means of exchanging the air laden with what are supposed to be the impurities given off from their learned bodies for fresh atmospheric supplies. It is true that we generally treat our patients better than ourselves, and yet we have seen surgeons standing over some critical surgical case in an operating room or theatre with no superfluous air space, and all doors and windows shut. We have also seen them taking recreation in a closed room, blue with tobacco smoke, and no means of changing the air. We know, and those for whom we are writing know, that such practices are injurious, but they are so common that we feel impelled to draw the attention of our professional brethren to the folly of them. We are certain that we would feel much fresher, better, less fatigued, and would enjoy life better, and do better work, were we careful to have a purer supply of air in the rooms in which we happen to be.



Another subject of surprise, and a very unsavory one, is the beastly outdoor conveniences (?) which, in some places, the doctor allows his family to use. He listens in his student days to descriptions of dry earth and dry ash methods for use where the water carriage system cannot be used. But in practice his *vis inertiae* dooms his family to the use of one of those relics of barbarism of which the doctor ought to be ashamed.

We hope that after a while the doctor will take better care of himself and his.

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#### THE KINGSTON MEDICAL QUARTERLY.

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WE have received a copy of *The Kingston Medical Quarterly*, a new medical journal, which, in a modest way, asks for a kindly reception from other medical publications. THE CANADIAN PRACTITIONER desires to give it a cordial greeting, and wishes it success. It looks for the support of the profession of Eastern Ontario, and, we think, ought to get it. One of the leading editorials refers to the curriculum of the Ontario Medical Council. The views expressed are similar to those already enunciated by Principal Grant, of Queen's University. It will be remembered that a proposal was made to the council at its last session to change the rule requiring a fifth year of study, and in lieu thereof to lengthen the sessions from six to eight months each.

*The Quarterly*, which will probably, in a general way, represent the Medical Faculty of Queen's, is opposed to any change at present, and contends that the council would show a lack of stability by abandoning the fifth year before the new regulations have had a fair trial. The article goes on to state that it would embarrass many of the students who are in poor circumstances, financially. These young men, it is said, make some money during the vacations by taking certain situations which are open during the summer months. It is thought that if the sessions were increased to eight months such students would not be able to get employment for the remaining four months.

Another argument advanced against the proposed change is that it might have a bad effect on that portion of the public who hold the opinion that the medical profession is now, or is endeavoring to become, a close corporation whose chief aim it is, or will be, to throw as many obstacles as possible in the way of those who wish to engage in the study of medicine. It is said that the proposed legislation might tend to keep out of the profession poor men and to preserve this field of labor for the rich.

As we have before indicated, we agree with those who prefer the four years' course with sessions of eight months, with the conviction that such

a course would make better practitioners ; and we simply refer to the article in *The Kingston Monthly* to show that the friends of Queen's University, as a rule, still object to any change in the council's curriculum until the new regulations have been fairly tested.

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### IMMORALITY IN CANADA.

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IN the *Medical Record* (Nov. 7, 1896), we find the following editorial :  
 " We have been distressed and shocked beyond measure to learn that large and increasing numbers of women in Canada are giving themselves up to the vilest form of immoral practices. The report that comes to us, indeed, is such that, were it credible, we should be led to despair of the future of the country, for, compared to Canada, or at least to Toronto, Sodom and Gomorrah were as pure as Salvation Army shelters. It appears that cycling, which with us is adding so much to the health and the beauty and the charm of our women, is in Canada, or at least in Toronto, merely a means of gratifying unholy and bestial desire. We hesitate to believe such a report, but we have it on the authority of the editor of the *Dominion Medical Monthly*, and he is on the spot and speaks as one with absolute knowledge of the facts.

" After referring to the advantages claimed for the bicycle, which he refutes by the statement that the average woman gets about all the exercise she wants in looking after her home, our esteemed contemporary says that ' the consensus of opinion is increasing overwhelmingly day by day that bicycle riding produces in the female a distinct orgasm . . . and even if an orgasm is not produced the continued erethism is decidedly more injurious and tends to the production of nervous diseases and the general breaking down of the system. The only contention that can be made is that the orgasm or erethism is not produced. This we know to be absolutely untrue.' The writer adds more of the same kind, and pictures the mothers, wives, and daughters of his neighbors as scorching through the country, stooping low over the handle bars, and ' subjected to continued erethism as well as an occasional orgasm.'

" There is but one of two conclusions to be drawn from this statement. Either the wheelwomen of Toronto are the vilest of their sex, or they are the victims of a contemptible slander. Unless our contemporary has a mass of facts sufficient to establish beyond doubt the sweeping generalization contained in the article from which we have quoted, he has smirched the fair name of his countrywomen in a reckless fashion that calls for the strongest condemnation. The question of the healthfulness of cycling, for men as well as for women, is one that still admits of discussion ; but

the man who can assert or even suggest that the thousands, perhaps millions, of women throughout the world who ride the wheel are giving themselves over to self-abuse puts himself beyond the reach of argument."

The filthy rubbish to which the *Record* refers is in itself essentially nasty, while the direct charges against the women and girls of Toronto are simply infamous. To the *Record* we desire to say that its conclusion that our women are "victims of a contemptible slander" is correct. The impure and immoral women of Toronto do not, as a rule, indulge in cycling. They might misuse the wheel in gratifying their baser passions, but other methods suit them better. The great majority of the profession in Toronto believe that cycling, under ordinary judicious limitations, is in all respects a healthful exercise for women, and quite as free from evil as any form of recreation can possibly be. In many instances our physicians have reached this conclusion after careful study of the subject, and after overcoming rather strong prejudices they had against the wheel in former years. We are surprised and ashamed to find that Toronto contains a physician who is capable of writing such an article as that which appeared in the *Dominion Medical Monthly*.

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#### THE MEDICAL DEPARTMENT IN THE MILITIA.

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The following very unpleasant paragraph—which, however, is only too true—appeared recently in the *British Medical Journal*: "The reorganization of the Canadian Militia Medical Service demands the early and earnest attention of the Dominion Government. It is quite clear that, should the splendid fighting material available for Canadian defence have to be suddenly mobilized, the medical service would be utterly unfit to play its part, and a lamentable and culpable loss of life would result therefrom. The regimental medical officers, in their present untrained and unequipped condition, would not be able to afford even first aid to the wounded, while the total absence of organized bearer companies and field hospitals would leave multitudes of brave men to perish miserably. What can the Dominion 'military advisers' be thinking about?"

The Government has never given aid to the Medical Department in any shape whatever. The hospital corps of the different city regiments have never received a cent of money, nor a word of encouragement at any annual inspection up to 1896. This year the hospital corps of the city regiments are inspected by the D. O. C., and in all probability the result will be reported to Headquarters. When we think of the large expenditure necessary to properly conduct a city regiment beyond the annual drill pay, and in this amount given by the Government no allowance what-



ever is made for clothing, equipment, or drill pay for an ambulance corps. It is a surprise that the city regiments have each so well-equipped a corps, the expense of which falls wholly upon the regimental funds. This is manifestly unfair. The Government has not established a medical corps, and until such is done an ambulance corps in connection with each regiment is an absolute necessity. The company officers are deprived of money and clothing to outfit the corps, and the companies are to that extent robbed. If the Government would recognize the ambulance corps, and make allowance for clothing and equipment, the surgeons would take a great deal more interest in having a thoroughly efficient corps. As it is, the ambulance is treated and looked upon as the fifth wheel to a wagon. If the Militia Department does not wish to recognize the ambulance corps of the regiments, then let it establish a medical corps, and have it officered and equipped, so that it could be utilized in case of necessity. We will have more to say on this subject in a subsequent issue, and in the meantime would be pleased to have the medical officers of the different battalions express their views to us.

## Meetings of Medical Societies.

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### TORONTO MEDICAL SOCIETY.

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THE Toronto Medical Society held its regular meeting October 22, 1896, the president, Dr. W. J. Wilson, in the chair.

The members present were : Wilson, Brown, McMahon, Eadie, McPhedran, Graham, Machell, Carveth, C. J. Hastings, S. M. Hay, J. McCallum, W. B. Thistle, R. J. Wilson, A. Watson, Peters, Webster, Weir, Anderson, Russell, Greig.

Dr. McMahon and Dr. Eadie reported twenty-eight cases of diphtheria treated by antitoxin serum. (See page 794.)

Dr. McPhedran expressed his gratification at hearing such a favorable report. He had used antitoxin invariably during the past two years with satisfactory results. In only one case was the result unsatisfactory. In this case the sequelæ were very distressing. A lady contracted the disease from her child, which, though very ill, recovered. In her case, after the antitoxin was given, infection in the various joints followed, especially in the elbows, knees, and ankles. The convalescence was tedious. In other cases—one laryngeal, others severe faucial—recovery was extremely rapid, the membrane disappearing very quickly. In one case the child was in a semi-comatose condition. Within twenty-four hours after the injection brightness of intellect was manifest, the swelling in the glands had decreased, the temperature lowered, and the general condition much improved. The speaker then referred to adverse reports of the treatment. A bacteriological examination should be made in all cases. He had seen a young man who seemed to be suffering from a typical attack. His immediate removal from the house was advised. This could not be done at once. Culture made showed infection by the streptococcus only. In another case, with symptoms worse than the previous case, where the glands were swollen, the temperature high, and the pulse rapid, bacteriological examination again showed the streptococcus.

Dr. Crawford Scadding suggested that anti-streptococcic serum might be used in these cases.

Dr. Carveth said under the old plan of treatment reinfection scarcely ever followed. Was the antitoxin treatment followed by like good results?

Dr. H. B. Anderson asked what proportion of the cases reported were those of mixed infection. Reports showed that these were the most fatal cases; first, those infected by the streptococcus and the Klebs-Loeffler; second, those where the staphylococcus and diphtheritic bacillus were present. In such cases would the antitoxin counteract the mixed toxins? It was considered that only in the milder cases was the serum indicated. But now, larger doses were recommended for the relief of cases where there was mixed infection. He asked for an explanation of the action of the large doses in such cases.

This, Dr. McKenzie said, was difficult to explain, but clinical as well as laboratory experience proved that antitoxins were useful in counteracting mixed infections.

Dr. Machell called attention to the use of the serum in laryngeal cases, and contrasted the results obtained now with those where intubation was used.

Dr. C. J. Hastings objected to the use of the antitoxin as a prophylactic measure. Reports had shown that in a number of cases this procedure was fraught with danger to life. He thought the medical men should not run the chance of killing the patient until nature had a chance.

Dr. Greig asked as to the merits of the different brands of antitoxins.

Dr. Eadie, in referring to cases of sudden death reported, said that the weight of experimental evidence went to show that they were due to injection of air into the vein.

Mr. J. J. McKenzie said he could only speak on the subject from the bacteriological standpoint, not the clinical. There was no question as to the good results of the use of antitoxin in animals infected with diphtheria. He thought one of the chief factors in failure was due to under-dosage. He pointed out that another disadvantage in the clinical experimentation was the unknown amount of poison in the system, so that the same scientific exactness in regard to dosage could not be carried out. However, to be safe, large doses should be given. He thought it was not well to give below 1,000 units in any case. Speaking of the dangers of its use, he thought they had been largely over-estimated. Where they did occur, they were due, no doubt, to some fault in the vehicle—the serum. In cases of sudden death the cause might be due to the injection of air into the vein or to idiosyncrasy. He pointed out that what was to be desired now, and something that was likely to be accomplished shortly, was the separation of the antitoxin from the serum. This Brieger reported that he had been able to do by precipitation from the serum of zinc salts, a



double salt of antitoxin and zinc being obtained. Then, after filtrating, the zinc was separated by passing in carbonic acid gas. The question of mixed infections was important. To meet this condition, larger doses should be administered. Mr. McKenzie then described some of his experimental work.

Dr. Price-Brown referred to the report of a Detroit hospital where 100 cases were treated with four per cent. mortality. The dosage given was ten c.c. Ernst had reported unfavorably. There might be something wrong with his method of treatment.

Mr. McKenzie rose again to refer to some statistics which confuted the argument that the statistics given were one-sided, owing to the fact that the serum had only been used in mild cases. In Berlin the average of death for eight years prior to 1893 was 1,443; in 1893, 1,106; in 1894, 1,416; in 1895, 987. In German cities of over 15,000, during the eight years preceding 1894, the total death rate was 10,146; in 1895, 7,611. In Paris, from 1880 to 1893, there were 1,532 deaths yearly; in 1893, 1,262; during 1894, 993; during 1895, 411.

Mr. McKenzie said he was unable, as yet, to state the comparative values of the various samples on the market. He proposed experimenting to enquire if the serums were up to the label strength.

Dr. G. A. Peters gave his unqualified approval of the antitoxin both as a curative and also as a preventive. He considered that a physician was not doing his duty if he did not give immunizing doses to exposed persons. Incidentally, Dr. Peters remarked that he thought the province was behind the times in not having an establishment for the manufacture of antitoxin and the carrying out of experimental investigations.

Dr. McMahon showed the large hypodermic syringe with which he made the injections. He emphasized the necessity of thorough sterilization of the hands, the instrument, and site of injection. He referred to one report where ninety cases were treated without a death. In one of his cases the membrane had reappeared.

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A meeting of the Toronto Medical Society was held on the 12th instant. A paper on

#### THE TREATMENT OF SYPHILIS

was read by Dr. A. R. Robinson, of New York. He held that energetic, continuous treatment was necessary throughout the whole of the contagious stage, followed by interrupted treatment through life. The great point in treatment was to render the disease benign, so as to leave the system in as normal condition as possible, and yet to have produced immunity. The great danger in the disease was from the injurious effect

of the toxins upon the tissues, which rendered them vulnerable to certain irritations which produced the so-called tertiary lesions. The less intoxication the less injury to the tissues. The disease had been improperly divided into three stages, but there was no clear dividing line: the process was a continuous one. The phenomena of the early stages were outlined by the presentation of the clinical features of the disease. Absence of external lesions was no proof of the absence of lesions of the internal organs. Treatment should be directed toward the removal of danger of contagion, the prevention of deformity, and the saving of tissue.

The histological features of the chancre were then described. A tissue once the seat of a lesion was irreparably damaged. Diminution of the amount of virus produced and its elimination were to be aimed at. Two drugs were useful for this purpose—mercury and the iodide of potash. The mercury was directly antagonistic to the life of the organism, the iodide of potash assisted in the elimination. The latter was not germicidal in its action. The mercury should be given in such doses as to affect the gums. Buccal hygiene should be strongly insisted upon. Inunctions were the best form of treatment, except in the fat, and in those with tender skins. The patient should be warned not to use any part of the system unduly, so as to produce irritation or congestion of the part, lest such part of the body might become the seat of a tertiary lesion. For instance, a student should not read too much.

Excision of the initial sore would not abort the disease, because ere this had formed the inguinal glands were affected. Its removal would lessen the amount of local intoxication. Some cases would die in spite of treatment where the soil was favorable. Other cases, where the soil was good, sometimes got better without treatment. A great point in treatment was to keep the patient's system in good condition. Treatment should be commenced at the inception of the disease. The only sign needed was enlargement of the inguinal glands. If secondary lesions were prevented from appearing, after this active treatment might stop. The various treatments of syphilis passed under review, and were criticized by the essayist. Treatment to prevent gummatous formation should be by the combination of mercury and the iodide. Baths, such as those at Hot Springs, were commended, as they increased cell metabolism. They very materially assisted the other treatment; sometimes the baths alone were curative.

Dr. Wm. Oldright: Where there are sufficient data to enable us to determine at what period does cessation of the action of the organism occur, what period may we look for arrest of the disease without treatment? If we meet with a patient in the later years and find the patient has had syphilitic lesions, and not sure he has undergone a thorough course of treatment,

what is the latest period we would be justified in treating, what is the latest period we would look for manifestations?

Second, how long are the toxins in being eliminated after the micro-organisms have ceased to exist?

Third, has the reader of the paper met with those conditions of lardaceous disease simply from the syphilitic micro-organism without the long existence of purulent organisms?

Dr. Edmund E. King: I have listened with a great deal of interest to what Dr. Robinson has said. I feel that the intoxication idea of syphilis has a very able exponent. After these remarks, stating that intoxication is the most active agent in the disease, I do not reconcile the fact that he is in opposition to the excision of the sore. While it might be impossible to abort syphilis by excision of the initial lesion when advanced, yet there must be a period when excision of that lesion could abort the disease.

The sore develops in a stated period, and from that period another stated period exists before the inguinal glands or nearest glands are affected; so if it be possible to see the chancre and excise it, it appears to me we should at that period abort the disease. I do not suppose we meet with these cases but exceedingly rarely; yet, theoretically, abortion should be possible. If we do not meet with the sore before the glands are affected, we see it as soon as they are affected or shortly after; if we excise that lesion, we are preventing a large amount of toxic matter from entering the system. If it is a fact that the size of the sore has a bearing upon the future disease in the patient, it seems to me that the sooner that area is eliminated the sooner there will be a lessening of the amount of toxins absorbed. As long as there is an active lesion, toxins are being formed, and carried into the system. If the chancre be excised widely and freely, you are placing the patient in a much better position in regard to treatment; of course there are certain positions in which it is impossible to excise the sore. In such cases it is possible to destroy the sore by the actual cautery. I have looked into the matter with some degree of interest, and have records from cases in which I know that the excision has been followed by good results. I question the statement, if man is once affected and cured he is immune from a second attack. If it is possible to be cured of syphilis, it is possible to catch it again. If it is a self-limiting disease, there comes a period when it can be reinoculated.

Dr. F. Oakley: In case of a late lesion, such as general paralysis occurring, perhaps, twenty years after syphilis has been acquired, does Dr. Robinson mean to say that if we see such a case in the beginning treatment is useless? That is not the position of authorities. For instance, in locomotor ataxia it is thought anti-syphilitics are beneficial.



Dr. J. E. Graham : I have listened with a great deal of pleasure to the paper by Dr. Robinson. I feel especial pleasure in listening to Dr. Robinson, because he is a Canadian and a fellow-graduate. He is one of our honorary members, who has been an exceedingly useful one. I am sure he has never given anything of greater value than the paper given to-night. He has given us the modern ideas of syphilitic disease as well as its treatment. We have been too much governed by tradition in syphilis as well as in many other things in medicine. We have been trying to recognize primary, secondary, and tertiary stages. If the secondary stage was not present, we would have doubts that the case was syphilis. We have been expecting to have certain distinct lesions and sequence of lesions. The sequence takes place in the great majority of cases. We know there are many cases in which the sequence has been irregular. The doctrine taught us to-night will make us easily understand this irregularity, understand why some cases terminate fatally within a year, and why, in other cases, the lesions may be very slight.

In speaking of the possibility of reinfection, I would like to mention two cases which came under my own observation, in which, unless I made a mistake in the diagnosis, syphilis existed twice ; the patients became reinoculated. I do not see why, particularly taking the ground Dr. Robinson has taken, there should be always immunity in syphilis. In variola, for instance, immunity does not follow. I knew a gentleman who had variola twice, the second time more severely than the first. I do not see why the same sometimes should not occur with syphilis.

Dr. Graham, continuing, asked the essayist his opinion of treatment by mercurial inunctions while the iodide of potassium was being given internally. Such treatment had been condemned, because it was said that the iodate of mercury was formed in the system, which was very injurious. He had seen the reports of some cases treated in this way where serious results followed. The speaker further requested the reader of the paper to give his opinion of the intermittent treatment, the administration of mercury in the form of blue pill for ten days, then the iodide for ten days, and ten days without treatment. This treatment had warm advocates. The mercury after acted on the system ; then elimination was favored by the use of K.I.

Dr. Graham agreed in pushing the mercury, as the essayist had recommended, and emphasized the necessity for buccal cleanliness at this time. There were persons, however, who could not observe this rule; they take so large an amount of mercury before the gums are touched. A good point to remember was this : It was known that syphilitic poison has a deteriorating action on the blood—lessening the amount of hæmoglobin.

The mercury increases it. Rule.—Give mercury as long as the increment is kept up. When it is noticed to diminish, stop the mercury.

He would like the essayist's opinion on the use of intravenous injections of the bichloride.

There was no doubt about the importance of commencing treating the disease from its commencement.

Dr. John Hunter told of a case of secondary syphilis occurring in a young man engaged to a young lady who had been turned out of doors by a stepmother. Marriage seemed imperative. The doctor recommended the young lady to undergo treatment, and that careful hygienic precautions should be observed. If any symptoms arose an immediate report was to be made. The lady was put on treatment before marriage, the liquor hydrarg. perchlor. being administered. She never acquired the disease, and has had four healthy children. The husband recovered. Was it necessary, the speaker asked, to antedate the syphilis in this case? If so, why not protect everybody from it?

A second case had come under his notice. The patient, a very intelligent man, had acquired syphilis at twenty. Was treated at Guy's Hospital for three years, off and on. He then married and raised a healthy family, the youngest daughter being eighteen. During "the boom" he became financially ruined. With that impaired health came on. The syphilitic lesions reappeared on the abdomen and other parts of the body. Brain lesions set in. There was, first, paresis of certain muscles, then psychological disturbance. In three or four months the man died. Dr. Hunter asked the essayist how this reappearance of the lesions in this case were to be accounted for.

Dr. R. A. Reeve inquired of the essayist in what respect he considered congenital syphilis differed from the ordinary acquired, as far as the evolution of certain symptoms were concerned. He asked this in view of the statement of the paper that the so-called late symptoms were attributable to the syphilitic virus in the system. There was one condition of the eye occurring in congenital syphilis six months, one year, two years, or even fifteen years after birth, the so-called interstitial inflammation of the cornea. The fact was noticed that when the second eye was involved (as a rule), though the patient was under mercury, and in as good a hygienic condition as possible, not infrequently the inflammation involving the second eye was materially worse than that involving the first eye. As this occurred within a year after birth, and was a symmetrical lesion—affecting both eyes—and, in a sense, out of the category of tertiary lesions, the speaker asked in what sense the evolution of this symptom varied from the essayist's rule, and also whether he considered, if that characteristic of the disease appeared at fifteen or twenty, as it often did, the infective

period still persisted. Dr. Reeve referred to the use of hypodermic injections of pilocarpine in conjunction with the mercurial and iodide treatment in iritic adhesions. His confrère, Dr. Burnham, had drawn attention to this form of treatment in a paper read before the society, in which usual anti-syphilitic treatment had failed. The speaker pointed out that pilocarpine could not be used indiscriminately. He called attention to the plan of systematic diaphoresis by vapor baths bi-weekly during the so-called secondary stage, while giving mercury. This would act like pilocarpine and was much safer. He did not agree that the immunity obtained by treatment was similar to that obtained by the mother through inoculation from the foetus.

Dr. Reeve thought that emphasis should be laid on the dosage of mercury and the iodide. It was too often prescribed in a lackadaisical way, and in such doses that anybody could take year in and year out without harm.

Dr. T. F. McMahon referred to a method of detecting whether the disease was present or not. It was held by some that sixty grains of pot. iodid. should produce iodism if syphilis was not present. If it did not, the individual was free from the disease. He asked how certain cases of outbreak of syphilis at an advanced age were accounted for, barring the untruthfulness of the patient. If these cases were genuine, he would like to know if the essayist considered that these manifestations showed increased vulnerability of certain tissues, or were they due to the specific organisms being present and making an outbreak at that time?

Dr. C. J. Hastings cited reports of treatment by intravenous injections. One case of Jacksonian epilepsy, where there were two epileptic seizures daily, after the second injection was relieved for a considerable time. One man had reported four or five hundred cases with gratifying results. The effects were almost immediate. The syringe used was made of glass, so as to be rendered entirely aseptic. The technique of the operation was described. One-sixth of a grain of the cyanide of mercury was used.

Dr. A. McPhedran said that the reader of the paper held a very optimistic view of the prognosis of syphilis. His opinion would give great hope to those afflicted with the disease; many practitioners in years past looked upon the disease as incurable. Quite a number of leading men to-day think it is incurable. He (the speaker) would like to go as far as Dr. Robinson, but would find a good deal of difficulty in doing so. Supposing all the mercury given in the contagious stage was not curative, but simply inhibitory, it did not destroy the germ, just inhibited its growth to a greater or less extent. In some persons the inhibitory action would take place rapidly, and they would show no signs of the existence of the



disease for a long time. In other persons the lesions would appear during the administration of mercury, and with a virulence that would not be held down by mercury. The proper dosage was that which would produce physiological effect. The rule of giving it while it produced improvement in the blood had been stated. Even then, perhaps, enough was not being given to do the most good. In some cases he had seen the virulence of the disease very little affected. The remedy could be looked upon as simply inhibitory, in some cases very slight. Some cases would resist the mercury and would show lesions in spite of treatment; therefore, some cases were incurable. The essayist had stated that a patient in the secondary stage might have serious internal lesions, though no external were visible. This must be taken as a matter of opinion, as probably impossible to demonstrate. Dr. McPhedran thought the two remedies, mercury and iodide of potash, had in the past been used very much at haphazard. Mercury was the drug during efflorescing phenomena, the KI being given for the grosser lesions. He thought the iodide was preferable in intracranial syphilis. It was generally considered by many neurologists that these late lesions were toxin lesions and not germ lesions. It was difficult to explain why the toxins should be there if the germ was gone.

Dr. Robinson replied. He said that he had stated that many cases were incurable. He quoted the experience of Hutchinson and others, which agreed with this. Others got well without any treatment. Great importance was attached to the condition of the ground. It must be paid attention to. That there were lesions of the internal organs many examples showed: disease of the eye in the early secondary stage without cutaneous lesions; women showed lesions of the vagina without another lesion; others have them in the mouth. If this was true of organs we could see it must be true of those we could not see. A case might be mild and there be no cutaneous disease; in another there might be nephritis. Microscopical examination of tissue showed changes before lesions have occurred on the skin. Physiological changes occur in the cutaneous tissue before microscopical changes are seen. They must take place if the toxins are there, causing fever, lassitude, etc.

Regarding the use of the remedies: KI had no effect directly on the life action of the organism, he repeated; it only aided by some action on the glands the elimination of the poison. It would cause absorption of the gummatous material, but would not stop the formation of lesions that would become gummatous. The only value of KI in a diagnostic way was where certain tumors were present, of the rectum, for instance, and the question was whether they were syphilitic or sarcomatous, carcinomatous, etc., KI might settle the question.

He had no objection to intravenous injections ; he thought it was preferable in many cases. But the patient would not come to one's office every day for weeks and months. It would cost too much and took too much time. The very same result could be attained in other ways. As to the question of the causation of general paralysis and other lesions, some men held it was caused by syphilis. An analysis of Isaac's cases, lately published in *Lassar's Journal*, showed that there was no reason for supposing these lesions were the result of syphilis. He (the speaker) referred to the value of baths. The duration of the contagious stage was not settled. He considered three years was long enough to treat anyone who did not show signs, that is, if treatment had commenced with the appearance of the primary sore. He believed persons got immunity. He did not believe the organisms existed any longer when immunity was established. The immunity was got from intoxication.

Regarding excision of the primary sore, he said that in his paper he had pointed out that if the chancre was diminished in size by any means the amount of toxins was diminished ; but that would not abort the disease, as the inguinal glands were affected before the primary sore forms. He believed in every case reported as aborted there had been a mistaken diagnosis. He did not think a positive diagnosis could be made until the inguinal glands were noticed as being affected. It was to be remembered, too, that the inguinal were glands that could be palpated, but there were others which could not be felt. It was difficult to destroy the chancre when it was large ; and even if one could excise it, a large indurating sore formed very rapidly after excision.

## Book Reviews.

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AN AMERICAN TEXT-BOOK OF APPLIED THERAPEUTICS. For the Use of Practitioners and Students. Edited by J. C. Wilson, M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, etc., assisted by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Philadelphia : W. B. Saunders, 925 Walnut street. Price, cloth, \$7 ; sheep, \$8 ; half Russian, \$9.

This admirable text-book on applied therapeutics is the result of the combined work of a large number of well-known American contributors, and is essentially clinical and practical in its character. In the long list of co-workers we find the following : J. C. Da Costa, John B. Chapin, John Guiteras, Charles K. Mills, John K. Mitchell, Frederick K. Packard, Theophilus Parvin, E. O. Shakespeare, Wharton Sinkler, Louis Starr, Henry W. Stelwagon, James Tyson, of Philadelphia ; I. E. Atkinson, Wm. Osler, J. N. Mackenzie, of Baltimore ; James Stewart, of Montreal ; Ferchheimer, Whittaker, of Cincinnati ; Sanger Brown, Danforth, of Chicago, etc. The arrangement is in accordance with modern ideas as to pathology, and the subjects treated are intoxications, infections, diseases caused by internal animal parasites, diseases of undetermined origin, diseases of the digestive, respiratory, circulatory, renal, nervous, and cutaneous systems, and disorders of pregnancy. The book is an exceedingly good one, and is likely to be very highly appreciated by general practitioners.

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A MANUAL OF CLINICAL DIAGNOSIS BY MICROSCOPICAL AND CHEMICAL METHODS. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., Late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. In one very handsome octavo volume of 504 pages, with 132 engravings and 10 full-page colored plates. Cloth, \$3.50. Lea Brothers & Co., Philadelphia and New York. 1896.

What proportion of our physicians in general practice conduct careful examinations of the urine, sputum, blood, gastric juice, etc.? The author of this valuable work thinks that, at least, many do not. He is certainly correct ; but the profession, generally, and senior students in medicine, are becoming alive to the importance of laboratory methods of diagnosis. A few of our colleges have recognized the fact that a systematic study of clinical chemistry and microscopy is absolutely essential in the scientific training of medical students.



Dr. Simon has done much work in the laboratories of Europe, and also in Johns Hopkins, and has an intimate knowledge of the most recent methods of investigation. He describes the examination of the blood, the secretions of the mouth, the gastric juice, fæces, nasal secretion, sputum, urine, transudates, exudates, cystic contents, semen, vaginal discharges, and milk. In every case a description of normal material precedes the pathological considerations, which latter, in turn, are followed by an account of the methods used in examination. We consider it an exceedingly valuable book, and hope the profession will at once show for it the appreciation it richly deserves.

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A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. For the use of students and practitioners. By John H. Musser, M.D., Assistant Professor of Clinical Medicine, University of Pennsylvania, Philadelphia. New (2nd) edition, thoroughly revised. In one octavo volume of 925 pages, with 177 engravings and eleven full-page colored plates. Cloth, \$5; leather, \$6. Lea Brothers & Co., publishers, Philadelphia and New York. 1896.

One of the greatest trials of the medical man is the knowledge that new books are continually coming from the press, of which, perhaps, one in fifty is worth buying, and that it will most likely have to be bought in order to determine its quality. When a volume issues with the name of Musser as a guarantee the matter is different.

The book before us is a practical treatise on medical diagnosis for students and physicians, by John H. Musser. There is no subject upon which good work could be more useful, and none in which a better excuse for a new treatise exists. Advance in technique and methods is so constant that one should always find something new. We cannot here give the space which Musser's work deserves, but merely say that it is good and worth having. The printers, illustrators, and binders' parts have been well done, as always when Lea Brothers are the publishers, and the subject-matter is very good. Detail has been entered into to a sufficient extent when the object of the work is considered, and at the same time the practitioner is not discouraged with a lot of technique, such as but few can put into practice. We have no hesitation, then, in recommending Musser's book to those for whom it was intended.

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THE AMERICAN ACADEMY OF RAILWAY SURGEONS. Report of the second annual meeting held at Chicago, September 25th to 27th, 1895. Edited by R. Harvey Reed, M.D., Columbus, Ohio.

This little book contains a report of the proceedings of the above association, in a very compact form. Besides the general business and the president's address, the subject of surgery is treated, as far as concerns railway surgeons, under the following heads: Amputations, fractures, brain and spinal injuries, treatment of septic wounds and their prevention, sanitation, and medico-legal. Nearly twenty cuts are given, mostly photos of the officers of the Academy, but some illustrative of the subjects under discussion. All the papers were open to discussion, and many interesting points are recorded, which one might well read with profit.

Dr. C. M. Daniels, Buffalo, in the use of cocaine in minor amputations

recommends the use of *mx* - xv of a 2 per cent. solution, which he injects into the finger after a bandage is on, or around a small tumor which needs removal. We would suggest that as good results with less danger will be obtained by using only a fractional amount of cocaine with a little morphia in a normal salt solution after Schlech's method, using a greater amount of fluid than that suggested, and so produce artificial œdema.

In discussing skin-grafting, several methods are mentioned besides Thiersch's, as the one by Dr. Reineking, in which he transplants the whole thickness of the skin upon a surface which need not be a granulating one. Dr. Kibler uses the horny epithelial tissues from the palm of the hand or sole of the foot, placing small pieces the size of a split bean on the raw surface and covering with oiled silk and adhesive plaster.

The report of several cases of the use of gold foil in fractures of the cranium, and resulting cerebral hernia, by Dr. W. L. Estes, is interesting. The foil supplies the place of the bone which has been removed, and, being non-irritant, is left in position permanently.

Dr. J. W. Perkins read a very instructive paper on the mechanism and diagnosis of traumatic cerebral lesions, going very fully into the subject.

The advantages of continuous submersion in the treatment of infected wounds of the extremities are summarized by Dr. F. J. Hodges, as follows: It is harmless, it almost instantly limits infectious gangrene, septicæmia and sapræmia, and relieves the pain of phlegmonous inflammation or cellulitis.

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**DEFORMITIES: A TREATISE ON ORTHOPÆDIC SURGERY.** By A. H. Tubby, M.S. Lond.; F.R.C.S. Eng., Assistant Surgeon, and in charge of the Orthopædic Department, Westminster Hospital; Surgeon to the National Orthopædic Hospital; Surgeon to Evelina Hospital for Sick Children; late Senior Demonstrator in Physiology, Guy's Hospital. London and New York: Macmillan & Co.; Toronto: The Copp, Clark Co. Demy 8vo., pp. 598.

This excellent work is, according to the author's preface, the outcome of some years' experience in this department in several London hospitals. Much that is contained in the book has to do with the author's experience in his own cases. While this is true, yet the author has availed himself of the writings of the most noted workers in this department of surgery. Since osseous deformities constitute so large a part of surgery, it is not surprising that to be at all complete a large volume is required. The book of nearly 600 pages is published by Macmillan & Co in excellent style. A very attractive feature is the richness in illustration. There are, in all, fifteen plates and 302 cuts in the work. In a subject which has so much to do with the mechanical illustrations are of the greatest utility.

Beginning with diseases and deformities of the spine, the author deals at length with the cause and nature of angular curvature. The importance of complete fixation and rest is urged in the treatment of Pott's disease. This is best secured by rest in bed, movement of the part being prevented by sand-bags, bed frames, or by the wooden Phelps' boxes in the case of little children. After a period of rest in bed fixation of the diseased part is secured by a plaster

of Paris jacket, or one constructed from paraplastic material. Cervical caries is best treated by the paraplastic jacket with headpiece attached, or by encasing the head and neck in an extension of the jacket; or simply by means of a paraplastic collar, or by the Thomas leather collar.

Lateral curvature is the subject of the next chapter. The manner of production of lateral curvature of the spine is well shown in the accompanying cuts of faulty school seats and piano stools. Other cases may begin in early life, owing to the constant maintenance of a deflected spine while in the nurse's arms; or to inequality in the length of the two legs, or to flattening of the chest on one side consequent upon pleuritic effusion. Cure or improvement is effected by means of gymnastic exercises, suspensions, etc., the correction of the habitually faulty position, and the use of certain mechanical supports or braces to prevent return to the faulty position.

Continuing, the author devotes a chapter to deformities of the chest, neck, and upper extremities. This includes ring-neck, and the various forms of club-hand, webb fingers, etc. Illustrations showing club-hand from absence of the radius, and of the peculiar contraction of the palmar fascia, first described by Dupuyetron, are contained in this chapter.

The remaining sections contain articles on rachitic deformities and on deformities of the lower extremities. This would include congenital displacements, *genu varum* *valgum* on recurvation, and the various forms of club-foot.

In all departments the work is most complete. The reader, after perusal of the chapter on any of the subjects treated by the author, has the satisfaction of having had the subject dealt with broadly, yet definitely. We feel sure that these qualities will render the book popular with the orthopædic surgeon, as well as with the general practitioner.

THE MEDICAL NEWS VISITING LIST FOR 1897. Philadelphia: Lea Brothers & Co.

This neat little pocket visiting list fills the bill very nicely. It is very complete and published in four styles: Weekly, dated, for 30 patients; Monthly, undated, for 120 patients per month; Perpetual, undated, for 30 patients per week per year, and Perpetual, undated, for 60 patients per week per year (without text). The first three styles contain 32 pages of text and 160 pages of blanks. The 60-patient style consists of 256 pages of blanks. Wallet-size, flexible leather cover, pocket, and pencil. Price in any style, \$1.25. Besides the list there is a complete table of urinary analysis, eruptive fever table, incompatibility, table of dosage, and an illustrated table of ligation of arteries.

THE July issue of the *Post-Graduate* was an entirely new departure. It was exclusively devoted to neurological reports from the clinic of Prof. Chas. L. Dana, reported by Drs. Dana, Geo. R. Elliott, Jos. Collins, Wm. P. Wilkin, and Jos. Fraenkel. This is an expensive change, and will undoubtedly make itself appreciated. There are fifteen articles in all, illustrated with seventeen full-page cuts. The whole is well worth a perusal, as the cases illustrating the



various subjects have been taken from recent clinics, and are full of new matter.

Dr. Dana's treatment of tic douloureux consists of three stages : (a) daily hypodermics of strychnia gr.  $\frac{1}{30}$ , increasing in two or three weeks to gr.  $\frac{1}{8}$  -  $\frac{1}{4}$ , and after keeping at that dose for a week gradually decreasing, and stopping in six weeks ; (b) then start with potas. iodide gr. v., *ter in die*, increased to gr. xx., and tincture of iron *mv.*, increased to *mxxx.*, well diluted ; (c) rest in bed for four weeks at least is a part of the treatment which must not be neglected, and judging from the results given in the cases cited one may expect a cure, or at least great relief in any case, no matter how prolonged it may have been.

Hypnotism is advised in any of the various functional nervous diseases, as neurasthenia, hysteria, or even insomnia, a lasting cure being made in many cases after the patient has been hypnotized several times.

The notes on laboratory methods, by Dr. Geo. R. Elliott, contain very full directions with regard to the preserving and staining of nervous tissues for general and microscopical study. Amongst others, formalin in 2 per cent. to 5 per cent. aqueous solutions is mentioned, it hardening the tissue in a week. It destroys the coloring matter of the blood, but not the corpuscles themselves, leaving a white specimen with but little shrinkage. Several methods are also given how to stain different tissues.

Dr. Dana gives full directions as to the method of examining the insane, and the plan there laid down is very complete.

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Books and Pamphlets received :

THE TREATMENT OF CANCER OF THE RECTUM. By Lewis H. Adler, Jr., M.D., Professor of Diseases of the Rectum, Philadelphia Polyclinic and Post-Graduate College ; Surgeon to the Charity Hospital and to the Out-Patient Department of the Episcopal Hospital. Reprinted from *University Medical Magazine*.

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FURTHER OBSERVATIONS ON THE TREATMENT OF SPASMODIC TORTICOLLIS. By Maurice H. Richardson, M.D., Visiting Surgeon to the Massachusetts General Hospital, and George L. Walton, M.D., Physician to the Neurological Department, Massachusetts General Hospital. Reprinted from *The American Journal of Medical Sciences*, July, 1896.

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OVER THE HOOKAH : THE TALES OF A TALKATIVE DOCTOR. By G. Frank Lydston, M.D., Professor of Genito-Urinary Surgery in the Chicago College of Physicians and Surgeons ; Professor of Criminal Anthropology in the Kent College of Law, etc. Sold by subscription only. Sent prepaid on receipt of subscription price. Price in cloth, gilt top, \$4. Price in morocco, full gilt, \$5. Over 600 pages octavo. Profusely illustrated from the author's designs by C. Everett Johnson. Chicago : The Fred Klein Publishing Co.

## Medical Items.

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DR. CHARLES CARTER has left French River, and is at present located in Toronto, in charge of the Home for Incurables.

DR. WILLIAM CUTHBERTSON (Tor. '83), who has been practising in Chicago for the last twelve years, has been appointed Professor of Surgery in the West Chicago Post-Graduate College and Polyclinic.

WE have to announce with much pleasure that Dr. Lewellys Franklin Barker (Tor., '90), at the last meeting of the Board of Trustees of Johns Hopkins University, was appointed Associate Professor of Anatomy in charge of the department of histology under Professor Mall. He will still retain his connection with the pathological laboratory during the summer months.

DR. HIBBERT HILL (Tor., '94) has been adopted by our American cousins, as the following, cut from the *Brooklyn Eagle*, shows : "Health Commissioner Emery, this morning, appointed Hibbert Hill, M.B., assistant biologist, at an annual salary of \$1,500. The commissioner has rented a small house at Rockville Centre, where, in accordance with his intention as expressed when the water scare was prevalent, he will establish a depot for the examination of the water supply at its source."

FOR the notes referring to the next meeting of the British Medical Association, which appear in our editorial columns, we are indebted to one of the honorary local secretaries, Dr. J. G. Adami, of Montreal.

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CLINICAL RECORDS. — An American paper is responsible for the following : "What can I do for you, miss?" inquired the clerk in a drug-store. The blushing young woman glanced about her in embarrassment, and then replied : "I want some castor oil." "All right ; in just a moment." The clerk moved around behind the counter for a moment, and then he went to the soda-fountain. "Do you like soda?" he asked. "Oh, yes, indeed." "What flavoring do you prefer?" "Pine-apple, please." The clerk drew a glass of the fizz, and the young lady drank it. Then the clerk sat down on a stool and commenced to chat with her. She was apparently annoyed, but replied courteously to all his remarks. Finally she said, "If you'll give me the castor oil, I'll go." "Why, you took it in that glass of soda." "Took it in the soda! I didn't want to take it. It was for my little brother." And the clerk wondered why she was indignant.—*Bristol Medico-Chirurgical Record*.

THE American Association of Obstetricians and Gynæcologists, at its ninth annual meeting held at Richmond, Va., elected the following-named officers for the ensuing year: President, James F. W. Ross, M.D., Toronto; vice-presidents, George Ben Johnston, M.D., Richmond, and John C. Sexton, M.D., Rushville, Ind.; secretary, William Warren Potter, M.D., Buffalo; treasurer, Xavier O. Werder, M.D., Pittsburg. Executive council: Charles A. L. Reed, M.D., Cincinnati; Lewis S. McMurtry, M.D., Louisville; A. Vander Veer, M.D., Albany; J. Henry Carstens, M.D., Detroit; and William E. B. Davis, M.D., Birmingham. The next annual meeting was appointed to be held at the Cataract House, Niagara Falls, N.Y., Tuesday, Wednesday, Thursday, and Friday, August 17, 18, 19, and 20, 1897.

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DAMAGES FROM DEFECTIVE SANITATION.—A verdict for £3,500 as damages for defective sanitation is a severe warning to those whose duty it is to look after the health of the public. This is a judgment that has just been pronounced at the Birmingham Assizes in an action brought against the King's Norton District Council by the executors of Mr. Thomas Smith, brother of the Lord Mayor of Birmingham, with relation to that gentleman's death, which was due to blood-poisoning, the alleged consequence of a defective sewer ventilator carried up the chimney of his house. In the course of the evidence it came out that, on being requested to do so, the local authority had stopped the connection with the sewer; but it was the plaintiff's case that this work had been done in an imperfect manner, and that in consequence of this carelessness blood-poisoning had been caused, and death had ensued. As the action was defended it would be expected that the local authority had something to say for themselves, at all events as to the amount sued for, which was no less than £10,000; and, as a matter of fact, we find that, although it seems to have been admitted that death really resulted from defective sanitation, the defence was put forth that the house in question was in an insanitary condition from causes over which the local authority had no control. However this might be, the jury decided that the district council must be held responsible for the consequences of the action of their sanitary officers, and they accordingly found for the plaintiffs, although with modified damages. District and parish councils throughout the country should take a note of their responsibility.

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#### OBITUARY.

HENRY MANLEY, M.R.C.S. ENG.—Dr. Manley died at his residence, Owen Sound, October 19, aged seventy-seven. He was a native of Devonshire, England, and became a member of the Royal College of Surgeons, England, in 1841. He came to Canada in 1847, and first settled in Toronto. The following year he went to Owen Sound, where he remained up to the time of his death. He was for many years surgeon to the gaol in Owen Sound. During the latter years of his life he did but little practice, but, being active in his habits, he was well and favorably known by the citizens of Owen Sound, where he had lived forty-eight years.



CHARLES E. LAWRENCE.—Dr. C. E. Lawrence died at his home at Murieta, Riverside county, California, on October 23, aged 37. He formerly lived at Richmond Hill, Ontario, and received his medical education in the Toronto School of Medicine, graduating in Victoria University in 1885. For some time his health was poor, incipient phthisis being suspected, and he deemed it advisable to go to California. For some years after his arrival the air of this country appeared to agree with him, and it was hoped that he had quite recovered. At the time of writing we do not know any particulars as to his last illness. He was highly respected as a man and as a physician while in Canada, and was very much liked by his intimate personal friends.

DARBY BERGIN, M.D., SURGEON-GENERAL OF CANADA.—Canada has lost one of her most distinguished citizens through the death of Dr. Darby Bergin, which occurred at his home in Cornwall, October 22, 1896. On the evening of September 18 he had a paralytic stroke, from which he never rallied. He had been in poor health for something like three years, but had been able to do his parliamentary and professional work fairly well until he was seized with paralysis. He was born in Toronto in 1826, received his preliminary education at Upper Canada College and his professional education at McGill University, where he passed the final examination in 1846, when he was nineteen years and seven months old. He soon commenced practice in Cornwall, and before many years became generally recognized as the most successful practitioner in Eastern Ontario. At the time of the Trent difficulty in 1861 he became captain of a volunteer company, and was gazetted Lieutenant-Colonel of the 59th Stormont and Glengarry Battalion in 1869. He retained his connection with this battalion until his recent promotion to the position of Surgeon-General of Canada. He was first elected to Parliament for the town of Cornwall in 1872, was defeated in 1873, and elected again in 1878, and continued a member of Parliament up to the time of his death. In earlier years he had been a member of the Town Council and a trustee of the High School Board. He was for many years a member of the Ontario Medical Council, being president in 1881 and in 1885. He was well known as one of the ablest and most energetic members of that body. He ever endeavored to maintain a high standard for the profession, and favored a course in arts as preliminary to a course in medicine. He was highly respected by all classes in Cornwall and vicinity. As a politician he took a foremost place in the ranks of the Conservative party. As a physician he was well known in all parts of Canada. In private life he was highly esteemed by all his acquaintances, and much loved by those who knew him intimately. He was endowed with a good constitution, and did an enormous amount of work during his lifetime. Soon after he passed the age of sixty he showed signs of old age, and during the last five years of his life his friends noticed that he had lost much of his former vigor. He attended faithfully, however, to his duties, parliamentary and otherwise, up to the time of his seizure. He was buried in the family lot in the old Roman Catholic cemetery at Flanagan's Point, the funeral being the largest known in Eastern Canada since the burial of John Sandfield Macdonald. Dr. Bergin was never married.

# THE CANADIAN PRACTITIONER

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## Original Communications.

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### THE SERUM DIAGNOSIS OF TYPHOID.\*

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By J. J. MACKENZIE, B.A.,

Bacteriologist to the Provincial Board of Health.

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THE recent practical application of the specific serum reaction of Pfeiffer in the diagnosis of typhoid fever is one of the most interesting results of recent bacteriological work.

In his researches upon Asiatic cholera, Pfeiffer, of Berlin, discovered that the serum of an animal rendered immune to cholera would, when introduced into the peritoneal cavity of a guinea-pig, along with a virulent culture of the cholera spirillum, cause the dissolution and disappearance of the spirilla in a remarkably short space of time. If the immune serum was not introduced, the spirilla multiplied, and the animal died.

This reaction, which was spoken of as Pfeiffer's phenomenon, was used for the identification of suspected spirilla. In many cases all other bacteriological methods left us still in doubt whether a given spirillum was that of Asiatic cholera or not. This test proved absolutely reliable.

\*Read at the Pathological Society, November 29, 1896.

Pfeiffer and Kolle extended the method to the typhoid bacillus so as to distinguish the true typhoid organism from typhoid-like forms, which are frequently found in water, and they also so elaborated the method as to show that the reaction was specific.

In the course of their researches they found that it was not always necessary to introduce the mixture of immune serum and bacteria into the peritoneal cavity of a guinea-pig, for a certain amount of change took place if the serum and the culture were mixed in a test tube with bouillon. If the culture was not of the same germ which had produced the immune serum, no change occurred; if it was, the bacteria fell to the bottom of the tube in a flocculent precipitate. A microscopic examination showed that they had lost their motility, and had become entangled so as to form clumps.

Gruber and Durham, of Vienna, discovered this test-tube reaction almost simultaneously with Pfeiffer, and they gave to the substance in the serum which causes the clumping the name agglutinin. Pfeiffer, on the other hand, calls it paralyisin.

Widal was the first to see the clinical significance of these facts, and to examine the effects of the blood serum of patients suffering from typhoid upon cultures of the typhoid bacillus. He was able to find an agglutinating action present when he used the serum alone, or the fresh blood, or a watery solution of the dried blood.

Dr. Wyatt Johnston, of Montreal, has made a practical application of Widal's method in allowing a drop of blood from a suspected typhoid case to dry upon a slip of paper, and then later, in the laboratory, moistening the drop with sterile water, and mixing a portion of it with a fresh bouillon culture of typhoid in a hanging drop. This is watched under the microscope, and, if the case is typhoid, in the course of from half an hour to an hour agglutination of the bacilli occurs. The advantage of Dr. Johnston's method is that it is eminently practical, and enables a bacteriologist in a central laboratory to make diagnoses for a large area of country in the same manner as has been done in diphtheria and tuberculosis.

I have used Dr. Johnston's method in my own laboratory, and am well satisfied with the results obtained so far.

After mixing the culture and the watery extract of the blood of a typhoid patient, as a rule no change is observed for a few minutes, the bacilli moving rapidly backwards and forwards through the field with their characteristic motion. Then one notices individuals sticking together in pairs or in threes moving clumsily, and in a short time others join the clumps, the movement becoming always slower, until finally all the bacilli are tangled together in large clumps containing ten or more individuals, and all movement stops.



The reaction takes longer in some cases than in others. In one case it was complete before the preparation could be placed under the microscope, *i.e.*, in about two minutes. In the majority of cases it takes thirty minutes. My own experience is that if there is no evidence of reaction within an hour there is not much chance of its appearing, but it is well to observe the slides for twenty-four hours.

In order to be sure of accurate results one must use a very motile culture, *i.e.*, a fresh one, and it is well to have it so dilute that not more than, say, fifty to a hundred bacilli appear in the field.

A magnifying power of about 480 diameters is all that is necessary, and it should be used without the Abbé condensor, preferably with artificial light.

My results with this method have so far been very satisfactory, and I feel very confident that it will be found an important aid to diagnosis.

I have tried the reaction in eighty-two cases, in some of them upon several samples of blood taken at different times.

Sixty-one of these cases were typhoid, or subsequently turned out to be typhoid, and in fifty-seven of these I got a positive reaction; in four I got no reaction. I am not prepared to offer any explanation of the negative results in these four cases, except that in one I had an exceedingly small sample of blood.

In twenty-one cases not typhoid, or subsequently turning out not to be typhoid, I got a negative reaction in all; there were, amongst other non-typhoid cases, tuberculosis, acute dilatation of the heart, articular rheumatism, septicæmia, and blood from healthy individuals. A number of tuberculosis cases were tried, including two cases of meningeal tuberculosis, with negative results in each case.

I have tried cultures of *bacillus coli communis* in parallel preparations with the typhoid bacillus without obtaining the reaction.

Before closing, a word as to the explanation of this phenomenon. It is evidently due to some specific substance—probably bactericidal—produced in the organism as a result of the typhoid infection. It is likely not of the nature of an antitoxin such as we find in diphtheria and tetanus. An experimental work has shown that the antitoxins are certainly different from the bactericidal substances found in blood serum. It is also not an alexin, in the sense in which Buchner uses the term, as they are not specific. For the present it seems as if no theory as yet will properly explain the phenomenon.

## THE BETTER OPERATION FOR HÆMORRHOIDS: AN ANALYSIS OF FIVE HUNDRED CASES IN THE SURGI- CAL SERVICE OF MOUNT SINAI.

BY F. L. VAUX, M.D., C.M.,

Late House Surgeon, Toronto General Hospital ; Resident Assistant, Mount Sinai Hospital, N.Y.

**D**URING the last eight years there have been in round numbers 700 operations for hæmorrhoids, of which 500 were performed by clamp and cautery, about 125 by ligature, and some 75 by the Whitehead method of extirpation. Believing that the clamp and cautery operation is the quickest, safest, and best, I submit this remarkable series of 500 cases as evidence. There has been kept a careful record of each case, and all figures and information in this article can, at any time, be verified.

To every hospital falls some special line of work to a greater or less degree, and to the better accomplishment of this work it bends its energies. Thus hospitals, like practitioners, become specialists to a certain extent, and some routine method of operation or treatment is adopted, usually that which after long experience is found to combine the three factors of speed, efficiency, and safety. The form of operation selected should also be a radical cure, if possible ; this feature, indeed, is the one surgeons are looking for in every new operation. The nature of this special work will be largely determined by the locality in which the hospital is situated, as not only will certain diseases be endemic, but the patients coming to it may be of another race or nationality, perhaps peculiarly susceptible to certain maladies. Thus the prevalence of malaria in the south gives to practitioners there an opportunity to study that disease which is denied to the physician in Ontario ; and the immunity of the negro race to yellow fever, together with their peculiar susceptibility to smallpox and pneumonia, can be only observed by those living in the tropics.

In New York race characteristics are more in evidence than climatic, although malaria is common enough.

The vast immigration to New York in past years, which to a less extent goes on to-day, has consisted very largely of Russians, Germans,

and Italians. The Russian and German elements contain many Hebrews who have been exiled from their country for political or religious reasons. Naturally, when sick, they seek a hospital which, though non-sectarian, and having all classes within it, yet is endowed and largely patronized by Hebrews.

To Mount Sinai, then, comes a large number of foreigners of the poorest and most ignorant class, but affording a splendid field for clinical work. The ailment to which they are most subject is one due largely to their occupation and habits, viz., hæmorrhoids, the causes of which we will now consider.

In investigating the cause of a disease or injury, one should look first to the occupation of the patient; thus we have the flat foot of the billiard marker and the anthracosis of the coal mine.

The greater number of men brought to Mt. Sinai with hæmorrhoids are tailors, though other occupations are in evidence, but all sedentary. Nor do these tailors stand behind counters in well-lighted and ventilated stores. On the contrary, they are jobbers, and not master tailors, and sit cross-legged on a hard counter, or on wooden chairs, a dozen in a room, stitching from morning to night in East-side sweat shops. This posture brings a constant strain on the perineum, tending to keep up any inflammation which may already exist.

The sedentary life thus led, added to the common practice of retaining a stool as long as possible, soon produces a habit of constipation, and the faecal masses, being hard and irritating when voided, scratch and abrade the mucous membrane, causing bleeding piles in many cases. The straining which such a stool necessitates also tends to the protrusion of the rectal mucous membrane and the engorgement of the venous radicles. In many cases the anus is not cleansed after defæcation, or, if at all, it is with the roughest material, which contributes to the inflammation.

All varieties of hæmorrhoids come under observation in the course of a year, but the form most frequently met with is the external pile in a condition of acute inflammation. Internal hæmorrhoids are less frequent, but are also treated by clamp and cautery.

The Whitehead operation, which was formerly in vogue to a much greater extent, is now limited to that class of cases in which the mucous membrane of the rectum is either involved too high up to be reached by the clamp or in which previous operations have left a raw and ulcerated surface. It is found, however, that by careful and continuous traction on the sponge, as described below, hæmorrhoids situated high up can be protruded and excised in many cases where formerly a Whitehead was thought to be indicated.

The preparatory and after-treatment is a matter of routine in Mt. Sinai, and is as follows :



On admission patient is given a bath, and if hæmorrhoids are strangulated an ice-bag is applied to anus. Should they be merely smarting and inflamed a wet Theirsch dressing is applied. The night preceding operation the patient is given a half-ounce of compound licorice powder, and at 5 a.m. a high enema, followed by a low one at 7 a.m.; if necessary, these are repeated, the test being that the fluid comes away absolutely clear. No food is given on the day of operation. The perineum is shaved in the ward, but the scrubbing up of the patient is in the operating room. When the patient is anæsthetized, the first assistant dilates the sphincter and thoroughly cleans the rectum with soap and water, by means of a sponge and holder, and then it is irrigated. The perineum and thigh are scrubbed with soap and water, followed by ether and bichloride of mercury. Wet bichloride towels are laid over the pubes and around the field of operation. Absolute antiseptic precautions are observed, the preparation of hands being the usual form for operations, and all instruments most carefully sterilized. There is no room in Mt. Sinai for the idea that the rectum is dirty, and, therefore, hands and instruments may be dirty also. And, as a consequence, sloughing, or pyæmia, is almost unknown. A good-sized sponge with string attached is wrung out of bichloride and introduced high into the rectum, and the assistant, grasping the string, makes sufficient traction to protrude the internal piles.

The technique of the operation may be summarized under three headings:

(1) Apply the clamp in the long axis of the hæmorrhoid so that the scar may be a radiating one, and thus avoid any chance of cicatricial stenosis.

(2) Dip the distal end of the clamp well down, so as to include the mucous membrane of the hæmorrhoid in its entire length, though only clamping off about one-third of its substance. Be sure that no skin is included, otherwise the subsequent œdema will be very great and time of recovery lengthened.

(3) Sear the hæmorrhoid slowly from above downward, layer by layer, the cautery being only at a dull red heat. By observing these precautions any subsequent hæmorrhage is avoided.

(4) Insert a tampon cannula as described below, which must not be removed till expelled by the first stool.

When the anæsthesia wears off the pain will be intense, and opiates must be given. The Mt. Sinai formula is *Tr. opii deod.*, *m.* xv., every eight hours. At 5 a.m. on the morning of the third day a half ounce mag. sulph. is given, and at 7 a.m. an oil enema is administered through the tampon cannula. This is important, as it saves much pain when the tampon is expelled. The enemas being expelled bring the cannula with

them, and the first stool is comparatively painless. On each successive morning a half ounce mag. sulph. is given, and on the fifth day the oedema will have disappeared in great part, and by the eighth day patient is ready to go. No dressing save a piece of iodoform gauze and a T binder is used. In a ligature operation the bowels are moved on the fourth day, and in a Whitehead on the fifth.

The tampon cannula mentioned above is made by taking a piece of half-inch rubber tubing, sterilizing it, and wrapping around it several layers of iodoform gauze. It is then anointed with sterilized vaseline, and after the operation is inserted in the rectum. The tampon cannula serves a double purpose. It allows the escape of secretions and flatus, so that all danger of retained hæmorrhage is avoided, and also allows the primary enemas to be given without much pain.

In conclusion, let us review the advantage of the clamp and cautery.

It is antiseptic ; not only can the clamp be readily sterilized, but the cautery itself is the most powerful germicide.

There are no sloughs to separate as in the ligature operation.

There are no ligatures or sutures to offer any chance for infection.

It is a radical cure.

The operation is a rapid one.

The time of convalescence can be definitely fixed, the eighth day.

The operation, which was formerly but little employed, is now in high favor in the New York hospitals.

The record of hæmorrhage, pyæmia, or death is almost negative.

It has been customary in some institutions to speak of the clamp and cautery operation as a barbarous and antiquated one. This is not right. The operation as above described offers a better method than that commonly in vogue to the surgeon, and a more satisfactory one to the patient.

In the five hundred cases operated upon in Mt. Sinai, by the above method, there has not been a single death. One case of pyæmia from which the patient recovered is recorded, and a few slight hæmorrhages. Nor so far as can be ascertained have there been recurrences. Can any statistics be more convincing?

## CHAIRMAN'S ADDRESS.\*

BY A. T. McNAMARA.

Worthy Guests, Members of the Faculty, and Fellow-Students :

I N welcoming you to this the tenth annual banquet of the Medical Faculty of Toronto University I have a most pleasant duty to perform. Our annual banquet is one of the events of the collegiate year, second only in importance to the examination, but far exceeding that in the pleasures of both anticipation and realization. After partaking of the excellent repast just stored away, we are in the best of condition to enjoy that "feast of reason and flow of soul" which we know from experience at former dinners is always forthcoming from our guests, our faculty, and our students. The length of the toast list is sometimes considered a drawback, but it is all good ; therefore we trust that all who possibly can will remain throughout the whole evening. If you have a latch-key, you are quite safe. However, those who must go early we shall reluctantly excuse. They will miss a good deal ; for, figuratively speaking, we keep some good wine for the close of the feast. Some of the best speeches come at the end.

Since our last banquet a sad event has happened, by which the students of this faculty, as well as the medical profession at large, have sustained a serious loss in the death of the late lamented Dr. McFarlane. Speaking for the students, I may say that he was a man held in the highest esteem by the students of this Faculty, and we deeply deplore that his useful life was cut short by such an apparently trivial accident. His death is an example of the fatal risks run by a medical man in the practice of his profession. Who can say that the "days of heroes and martyrs are past," that "the former days were better than these"? The doctor who, from love for humanity and for his profession, goes about in the unostentatious discharge of his duties, exposing himself wittingly to the contagion of the most loathsome and fatal diseases, is a hero in the highest sense of the term, and if in trying to alleviate the sufferings of others his own life be forfeited his name is worthy of a place on the roll of martyrs.

"The drying up a single tear has more  
Of honest fame than shedding seas of gore."

\* Delivered at the tenth annual banquet of the students of the Medical Faculty of the University of Toronto, December 2, 1896.



It has been customary, I believe, for the president of the dinner to embody in his remarks a review of medical progress for the past year. Now, I refrain from attempting such a task for two very good reasons. In the first place, I felt my own inability to perform the work satisfactorily; and, in the second place, the majority of those present have already heard the subject most ably dealt with by Professor Peters, who at the opening lecture of this session delivered an address on "Some Recent Developments in Medical Science." After such an able exposition of the subject, it would be audacious on my part (as well as a work of supererogation) to attempt to follow up the same line of thought. The subject of serum-therapy was most interestingly put, and so clearly that he who runs may read.

Perhaps it will be safer for me to talk of some of the things of which our knowledge is still somewhat imperfect. If we are always thinking of the wonderful progress made in medicine and surgery during the past few years, we are apt to lose our becoming humility and induce an attack of what is commonly called "big head." In case of students, such a disease undergoes spontaneous cure about examination time. Here is a paradoxical expression that I shall ask you to consider for a few moments—"The more we know, the more we don't know," or, in other words, "our ignorance increases with our knowledge." Allow me to illustrate by means of a comparison. Let the circle bounding the bottom of this cup represent the medical knowledge acquired by the freshman in the first year of his studies. (No offence to the freshman—this is simply for comparison.) Let everything outside the circle represent the unknown. Now, take the circle bounding the top of the cup to represent the attainments of the second-year man. His knowledge is greater, but he touches the unknown to a greater extent. Then the circle bounding the saucer may be taken to represent the acquisitions of the *third*-year man, while this plate would denote the knowledge acquired by a student at the end of his *fourth* year. I might carry the simile farther, but there are no dishes in the Rossin House large enough to represent the vastness of the knowledge of our professors. Now, if a man contemplates too much what lies within his own circle of knowledge, he is likely to become self-satisfied, and fail to recognize the infinity of knowledge which still lies without, and from which he should strive to enlarge his circle.

In the domain of the physiologist, there are still many things to be discovered. There are two or three bodily organs whose functions are not clearly understood. We judge of the functions of the thyroid gland by what results from its removal. If the thyroid gland be removed a great deposit of mucin takes place in the tissues; hence it is said that the thyroid gland secretes something to prevent this. It reminds one of the

boy's definition of salt : "Salt is what makes your potatoes taste nasty if you don't put any on."

Within the last three or four years disease of the thyroid has been successfully treated by feeding the patient fresh thyroid from an animal, or by the use of a thyroid extract. Following in what seemed to be the same line, other animal extracts have been prepared, such as cardine, cerebrine, etc. If cerebrine could be relied on to supply any deficiency of brain power, it would be an excellent thing for students preparing for examination. It would be essential, however, that the extract be prepared from the brain of an intelligent animal, and not, for instance, from that animal which is symbolic of stupidity, *the ass*. The spleen is another organ about which there is much uncertainty as to function, which must be an important one, to judge from its rich blood supply. The spleen in the human body has been extirpated without fatal results, but it is found that the lymph glands throughout the body enlarge after such removal.

The intelligent practice of medicine goes hand in hand with the study of physiology. The physiologist makes investigations and discoveries, and the physician applies these in his practice. For example, the physiologist demonstrates that in normal human blood there is a certain average number of red corpuscles to the cubic millimetre, and that iron is an important factor in it. The physician recognizing the fact that in anæmic conditions there is a deficiency in the number of red corpuscles and of the iron aims to increase both by medication, and measures his success by a blood-count under the microscope, and by the hæmoglobinometer. It is a thorough understanding of physiology which frees the practice of medicine from empiricism and gives a basis for the rational treatment of disease.

There are still, however, many diseases regarding which the doctors differ. This differing is not an unmixed evil, for in this very fact lies our hope of progress. If all were satisfied with one mode of treatment, there would be no striving for better results. Of course, when perfection in treatment is attained, it is time to cease differing. Typhoid fever is an instance of a disease about which there is much controversy as to treatment. There is the antiseptic method, which aims at killing the bacteria in the intestine. The eliminative and antiseptic method, which aims to get rid not only of the bacteria, but also of the toxins produced by the bacteria. The specific method, by the injection of dead cultures of typhoid bacillus into the muscles, and, last, but not least, the well-known cold-bath treatment, or hydrotherapy. That word hydrotherapy reminds me of an anecdote that appeared in one of the medical journals last summer.

A young doctor, commencing practice, had among his first patients an uncommonly unclean infant brought to his office in the arms of a mother



whose face showed the same abhorrence of soap. Looking down upon the child for a moment, he solemnly remarked, "It seems to be suffering from hydropathetic hydrophobia." "Oh, doctor, is it so bad as that?" cried the mother, "that's a big sickness for such a mite. Whatever shall I do for the child?" "Wash its face, madam; the disease will go off with the dirt." "Wash its face! Wash its face, indeed!" exclaimed the matron, losing her temper. "What next, I'd like to know?" "Wash your own, madam, wash your own." There is one thing about the story that seems somewhat improbable. It describes the physician as a young man just commencing practice. In these days, when the profession is so crowded, it is not likely that a young doctor would be so neglectful of his own interests as to drive away his first patients, even if they had dirty faces. The anecdote would be altogether credible if it described the doctor as old, with a very large practice.

Among diseases about which we have still more to learn are smallpox and scarlet fever, two typical contagious diseases, but, strange to say, the specific germ for each has not been discovered. The bug that produces scarlet fever must possess great vitality, for the infection remains in clothes that have been put away for months, or even years. The ravages of smallpox have been checked by the invaluable discovery of Jenner, the hundredth anniversary of which has been celebrated this year. In practising vaccination Jenner anticipated to a great extent the principle of serum-therapy. If now the germ of smallpox were discovered, cultures made, and an antitoxin prepared, then preventive measures against smallpox would be freed from the objections raised against the use of vaccine lymph. Even in this enlightened day you will occasionally meet with people (physicians sometimes), who, although in other respects quite intelligent, are yet strongly opposed to vaccination. Such people have been given a severe but wholesome lesson in what happened in Gloucester, England, recently. There a feeling was stirred up against vaccination, and the authorities did away with compulsory vaccination. Smallpox broke out, and finding a suitable soil caused such a mortality that the people were quickly brought to their senses. It is another example of the discipline of consequences, Nature's way of "making the punishment fit the crime."

Cancer is a disease about which there is room for further knowledge, both as to origin and treatment. The lay mind has a peculiar idea as to the nature of cancer, and imagines that the salves and plasters of the so-called cancer-doctors draw it out by the roots, even as the stumping-machine pulls the old stumps out of the farmer's back field. Various theories of the origin of cancer have been advanced, but no one theory has been generally accepted. It is perhaps safe to say that the excessive growth of cells is due to irritation, but the nature of the irritant is not



so easy to determine. The frequency of the occurrence of the growth in certain situations seems to point to mechanical irritation as the cause. Then, again, there are some observers who claim to have discovered cancer-bodies, minute parasites, in the cancer-cells. It seems almost as if the surgeons were getting tired of using the knife on cancers. There is a certain amount of sameness about the operation, and perhaps the only feature that lends interest to the case is the element of uncertainty as to whether or not the cancer has been entirely removed. Attempts have been made to check the growth of cancer by the injection of methyl blue into its substance, in the hope of fixing (in two senses) the protoplasm of the cell, and thus preventing cell-multiplication. This method is still on trial. Some are making the experiment of treating malignant tumors with the mixed toxins of certain bacteria. This method was suggested by the beneficial effect which an accidental attack of erysipelas had upon some tumors. There have been some good results obtained, but not sufficient to warrant the hope of much benefit from this mode of treatment. If some bacteriologist can succeed in discovering the cancer-germ, if such there be, and also succeed in preparing the antitoxin, then the disease can be treated rationally as in diphtheria and tetanus.

Just to show how successful the antitoxin treatment of diphtheria is let me refer you to the results obtained in Paris. Up to as late a date as 1893, the average number of deaths from this disease during September alone was twenty. During the first thirty-five weeks of this year no deaths occurred from diphtheria except in the case of two patients who had been brought in from the country, and in whom the disease was far advanced. Results such as these lead us to look for great things to be accomplished in the treatment of other diseases.

There is a disease which is the most common, the most fatal, and therefore the most dreadful of all—a disease which slays its tens of thousands, but with which we are so familiar that we do not realize its destructiveness. Tuberculosis, or, as it is commonly called, consumption, is no respecter of persons. It attacks rich and poor, learned and unlearned. Physicians have not been able to hold out much encouragement when consulted by patients suffering from pulmonary tuberculosis. The rich man is perhaps recommended to try a change of climate, but the poorer man stays at home to die. Some have said that the law of “survival of the fittest” comes into play here, that consumption weeds out the degenerates and incapables. But this is not true. The law of survival of the fittest has no soul. Some of the best and brightest men and women have their lives cut short by this dread disease. While speaking of tuberculosis, perhaps you will allow me to refer to the most recent developments in its treatment. In commencing this address I stated that I did not intend to

speak of the progress made lately in the line of medical science. But the recency of these developments shall be my excuse. The *New York Medical Journal* of November 21 gives a review of some articles that have lately appeared in some of the continental medical magazines, and which deal with the treatment of tuberculosis with Maragliano's serum. I shall not detain you with a description of the preparation of the serum, except to state that a mixed product is used in the inoculation of the animal to be immunized. In twenty-two cases treated by Dr. Renzi, of Naples, the injections did not give rise to any unpleasant results. Generally a sense of well-being set in, and the appetite improved. In some patients the tuberculous process was arrested, and in others there was progressive improvement. The curative action was gradual, and could not be hastened by increasing the dose. Even in hopeless cases there was marked alleviation of symptoms, as shown in a case reported by Dr. Regnier. Such gratifying results lead us to look for great advances in the treatment of pulmonary consumption.

In conclusion, let me say that in this address I have tried in an imperfect way to enumerate a few of the things about which we require further knowledge, and to indicate at the same time some of the lines along which we are to look for advance. This confession of ignorance should not tend to dishearten us, but rather should act as a stimulus to further efforts to increase the circle of our knowledge. We cannot all hope to be bacteriologists and pathologists, but we can so apply ourselves to our work that we may be able to appreciate and make practical application of the results obtained by the investigations of others. Our professors are trying to lay in our minds a broad and firm foundation of medical knowledge, so that when we go out from their care we shall not be empirics, but intelligent physicians. Then although we know that the path of the medical practitioner is not *strewn* with roses, we can go forward, taking as our motto a stanza from Longfellow, which in these days is peculiarly applicable, in more senses than one, to men entering upon a medical career :

“ Let us then be up and doing,  
With a heart for any fate,  
Still achieving, still pursuing,  
Learn to labor and to wait.”

## A REPORT OF THREE CASES OF POST-TYPHOID NEURITIS.\*

BY DR. GEO. J. PRESTON,

BAITIMORE, MD.

THAT neuritis is not a common complication of typhoid fever is evident from the fact that during my connection with the city hospital for several years I have not seen a single case in the wards there. Osler reports but four cases of neuritis in 389 cases of typhoid fever treated at the Johns Hopkins Hospital. It is not uncommon during the course of typhoid fever to have the patient complain of pains in the limbs, and this sometimes appears to be a distinct local neuritis. Hanford and Osler have both called attention to the "tender toes" which would seem to be a mild form of local neuritis. The graver forms are apt to appear during, or shortly after, convalescence. The following are examples of the severer forms:

CASE 1. The patient, a young man, had never had any severe illness. Was taken with fever May 25, and came to the hospital on the 30th. The fever ran a typical course, reaching 105 degrees. On July 8 he suffered a relapse, and fever again became very high. He continued in a critical condition until July 21. With the beginning of convalescence he began to complain of pain in the legs, and the slightest contact with the bedclothes produced great suffering. For three or four days there was an erysipelatous blush over the right leg, and later a small abscess developed at the ankle. The pain in the leg continued, and an examination at this time showed loss of patellar tendon reflex, some atrophy, double foot drop and a reaction of degeneration. There was no marked disturbance of sensation. He slowly recovered the use of his limbs and is now perfectly well.

CASE 2. The hospital nurse was taken with typhoid fever, June 6, and the disease ran a very severe course, with high temperature, and the patient was delirious for four weeks. On the fourth day after the subsidence of fever the patient complained of very severe pain in the right arm and leg, with inability to move the affected parts. In ten days the pain subsided. At this time, after spending a day in the country, the pain

\*Abstract of a paper read before the Clinical Society of Maryland, with discussion.



returned with great violence, spreading over the whole body, but most intense in the left leg. The leg showed some œdema and was hyperæsthetic. At the present time there is loss of patellar tendon reflex, muscular atrophy, and the reaction of degeneration in both lower extremities with double foot drop. The patient has very little power of motion in the lower limbs, and the grasp of the hand is very weak. There has been no disturbance of the bladder or rectum, and during the whole course of the disease very little loss of sensation.

CASE 3. Young man of 28 years developed typhoid, July 25, 1895. Previous to this he had shown signs of pulmonary tuberculosis. The disease ran a usual course of about five weeks, bedsores developed, and the temperature assumed a septic type. At this time there appeared an intense hyperæsthesia, most marked in the lower extremities, and paralysis of the extensor muscles of both arms and legs, followed by atrophy. There was a gradual return of power, though the paralysis never entirely disappeared. The arms recovered more perfectly than the legs. The patient died from nephritis.

These cases illustrate the severer forms of neuritis, and there can be no doubt of the etiological influence of typhoid fever. A point of very great interest, and one that is not yet determined, is whether inflammation beginning in the nerve trunk, or many nerve trunks, may by direct continuity involve the spinal cord. Some cases of tabes are extremely suggestive of this possibility. If such a theory can be established, then post-febrile neuritis would become of very great importance. A clinical point worth noting, and one that has attracted my attention for some years, is that cases of neuritis may present very marked motor disturbance, amounting at times to complete paralysis, without showing, or at least very trivial, sensory disturbances. The possibility of the etiological bearing of neuritis upon the degenerative cord diseases and the necessity of more careful treatment of the former is worthy of attention. I am a firm believer in the great utility of electricity in the treatment of neuritis, local or generative, and think that careful electrical treatment greatly hastens the recovery.

#### DISCUSSION.

Dr. L. F. Barker : In connection with these interesting cases reported by Dr. Preston, I may be permitted to refer to two or three histological points which have suggested themselves as he read. In the first place an entirely new conception of the nature and effects of neuritis is possible since the introduction of the neurone idea into the study of the nerve system. We know now that the axone (axis cylinder) of every nerve fibre is always a process of a nerve cell ; and what we used to designate as the nerve cell, together with its dendrites (protoplasmic processes) and axis

cylinder processes with its terminals, represent all taken together integral parts of a single cell of the body, a single neurone. It is not easy, therefore, to think of an injury to a nerve fibre without assuming alteration in the structure and function of the whole neurone of which the axone of the fibre forms a part. Experiments on unicellular organisms, *e.g.*, a *moebæ*, have shown that injury to one portion of the protoplasm leads to disturbances in the vital manifestations of the whole of the cell. If this be the case in what we are accustomed to look upon as simple, more or less undifferentiated protoplasm, it would not be surprising to find that injury to any portion of the nerve cell, which represents, from the standpoint of irritability, the cell in the animal kingdom most highly differentiated, results in disturbances of metabolism and functional activity through all parts of the unit. We are not without experimental evidence upon this point. Neisser has shown that if a peripheral nerve be cut, in addition to the Wallerian degeneration in the distal ends, and the changes demonstrated by Bregman, Darkschewitsch, Marinesco, and others in the central ends of the nerve fibres, that also, very early, definite changes occur within the cell bodies of the corresponding neurones. Even if the nerve be not cut through, but be simply injured by the application of the chemical substances, *e.g.*, common salt, nearly all the cell bodies of the central nucleus giving rise to the fibres injured show within twenty-four hours distinctly recognizable alterations. These alterations consist in a modification in the appearance of the substances within the protoplasm of the cell body, which stain of a deep blue color by Neisser's method. There is some evidence, too, that injury to the dendrites of a given nerve cell will affect the whole neurone deleteriously, and, of course, injuries to the cell body itself are always followed by retrogressive processes in both dendrites and axone. One portion of a neurone, therefore, cannot be injured without influencing materially the health of the whole nerve unit. Inasmuch as an anterior horn cell with its protoplasmic processes, its axone running out through the anterior root to form the axis cylinder of a motor nerve fibre, together with the collaterals and terminals which come off from the latter, all represents part of one neurone, it would not be surprising if in peripheral neuritis affecting especially the motor nerves that there should sometimes be symptoms referable to intra-medullary disturbances. That permanent lesions of the spinal cord are not more common than they are after neuritis is not, however, surprising when one recalls the regenerative power of the neurone. As long as there is no absolute interruption of the continuity of the axone, or if there has been interruption and the subsequent conditions permit a re-establishment of the connections between the axone and its corresponding peripheral organ, there may be a complete *restitutio ad integrum* of the central parts of the neurone,



and Neisser's experiment show that the stainable substance of the cell body resumes its normal characters. The studies of Goldscheider and Moxter upon the way in which the tetanus poison reaches the spinal cord from a peripheral lesion are interesting in this connection, but I can only mention them.

Dr. Preston has referred briefly to the distribution of the motor and sensory nerves in the peripheral nerve trunks. I may say that physiological experiment has shown that the motor fibres of one portion of a limb, *e.g.*, those for the flexors and extensors, are not evenly distributed within the nerve trunk leading to the limb, but are arranged in it, to a certain extent at least, according to the functions, *i.e.*, according to the groups of muscles to which they are to be distributed. I was led in studying a case of elective sensory paralysis to the view that a similar arrangement may hold also for the sensory nerves. It would appear that in the peripheral trunks the nerves for the conduction of pain, pressure, warmth, and cold may be arranged more or less according to the different paths which they have to follow on the entrance into the spinal cord.

I can support Dr. Preston's view regarding the curious inequality in the action of the toxins upon the different portions of the nervous system. We have already a great mass of clinical and experimental evidence bearing upon this point. More than one toxin appears to be definitely elective in its action, and the nervous diseases of apparently toxic origin support the view in their varying symptomatology. I need refer only to the researches upon the action of strychnine, carbon disulphide, alcohol, tea, etc., in this connection. This inequality is, however, what was to be expected rather than surprising, inasmuch as we must think of the members of the different groups of neurones, and probably of the individual members of the same group, as single organisms, each with its own life history, each with its own metabolism, each with its own specific function. It would therefore be a matter of great surprise did the same chemical substance act in precisely the same manner upon the different neurone individuals. That the same group of neurones may vary in susceptibility in different individuals is evidenced by the irregularities of the symptomatology in various intoxications. It is probable, however, that many of the curious irregularities of action are attributable to factors independent of the functionally irritable strychnines themselves, *e.g.*, those connected with the vascular supply.

Dr. W. D. Booker : I would like to report a case, which I saw last summer, of painful points coming on in different parts of the body during the anæmic condition following typhoid fever. These spots would occur without any perceptible cause whatever. The first point noticed was in the big toe, and caused considerable lameness. It disappeared within



twenty-four hours as suddenly as it had come. The next point appeared in the small of the back, coming on just after breakfast and disappearing some time in the afternoon. The next and most severe of all was between the ribs, and lasted for a week. It was of such a character that we suspected pleurisy, but we could find no signs on auscultation. The pain was severe on deep inspiration and coughing was almost impossible. The next point appeared just in front of the heel on the outside of the foot and lasted about twenty-four hours, disappearing suddenly. Then the heel itself was affected. These attacks were from four to five days apart. The only reappearance since September occurred night before last, when the pain came on again in the big toe and was so severe as to prevent sleep. In the morning there was some swelling about the toe, but when he commenced walking it all disappeared.

The discussion then turned upon typhoid fever in general, and Dr. Simon Flexner spoke of mixed infections:

I became interested in this subject during three or four years of opportunity to study the most unpleasant cases of typhoid fever from this point of view, namely, those that came to autopsy. They are not interesting to physicians except to look back upon. I became impressed with what was not a new thought, but which was a growing one, that typhoid fever does not always run its course as a simple infection. There occur sometimes symptoms that point to septic infection of a different character from that of typhoid, and I think we have now a definite pathological basis for such an opinion. The intestines contain a large flora, as you know, in life. We have to deal particularly with the pus-producing bacteria, and these are such constant inhabitants of the intestines that we can readily understand how that, typhoid fever being on hand, they may become important factors, the condition of typhoid being favorable to the increase of these organisms. It is especially when they leave the intestines that we have to deal with mixed infections as a factor, when they get into the peritoneum, spleen, or mesenteric glands, and cause there suppurative processes. Such inflammatory processes, I think, are very seldom due to the bacteria of typhoid, the pyogenic organisms being usually the cause. These are, then, the cases of mixed infections *par excellence*, where we have to deal with a combination of effects, partly due to the typhoid germs, and partly due to the pyogenic organisms. There are cases of actual septicæmia of pyogenic origin which are associated with typhoid fever. A French writer has laid stress upon this point as to how it increases the seriousness of the prognosis. We have had some cases of blood infection where cultures were made during life. The typhoid fever germ so rarely getting into the blood and increasing there, it is difficult to obtain them, but the pyogenic bacteria found there may be culti-

vated. The presence of pyogenic organisms in the blood need not be so alarming as we once thought ; we are so accustomed to think of these things as we see them in the laboratory. It causes death of the animals used there by overwhelming them, but during the past winter we have come across cases where the blood cultures gave pyogenic bacteria, and yet, after the evacuation of the local accumulation of pus and careful, clean treatment, the bacteria in the blood disappeared and the cases recovered.

Dr. J. H. Branham : I should like to relate, from a clinical standpoint only, a case which came under my charge this summer. Patient was a man of forty-one years, large and strong, and I saw him on the 13th of August, when he had been sick about one week. Up to that time he was supposed to have been suffering from malaria. When I first saw him the prominent symptom was a small quantity of bloody urine, with a large amount of albumen. The temperature was very irregular, of a typical typhoid character, and, later, other symptoms of typhoid fever developed so distinctly that I think there can be no doubt of this diagnosis. For the first few days the temperature ranged from  $103^{\circ}$  to  $105^{\circ}$ . The ordinary diuretics were given at first with cold sponges, and after a few days the kidneys began to secrete again. Up to the 25th the patient did well. At that time he showed indications of phlebitis in the right leg, which increased and gradually extended downward, until the limb was swollen from Scarpa's triangle to a point a little below the knee. The temperature, which had gone down nearly to normal a few days before this, again began to rise. The ordinary treatment for phlebitis was followed, but on the 2nd of September, in spite of the cold sponges, his temperature was  $105^{\circ}$ , and his condition critical. Cold baths were given, but not as regular as we would wish, because of the patient's actions. The patient became completely comatose ; his veins became somewhat softer, but his condition was so bad that I concluded that he could scarcely recover without operative intervention. I opened the vein, and found some pus, mixed with a large amount of clotted blood. Two openings were made, one in the upper part of the thigh and another below the knee, and the vein was washed out antiseptically. The phlebitis seemed to extend into the pelvis. After the operation the patient improved very rapidly, became conscious again, and his temperature went down to  $100^{\circ}$  or less. I thought he was going to get well, but about four days later he became comatose again, and, although there was no recurrence of the symptoms, there was some swelling below the knee, and on the night of the 7th he died. There had been no physical signs of heart trouble. I suppose the sepsis had extended to some of the internal organs, and death was due to that. This patient had suffered from phle-

bitis of the same limb twice before, the last attack occurring two or three years ago. The final attack occurred near the end of the third week of typhoid.

Dr. George J. Preston : I would just make one observation in regard to the cases we have seen at the city hospital this summer. We have had four well-marked cases during that time, and two last summer, of mixed infection, which is, I think, a remarkable record. None of them went to post-mortem, and whether they were typhoid, of course, I cannot prove, but, clinically, they were typical cases. In all the malarial organisms were present, and continued for several days after the administration of quinine, and even ran the typical typhoid course. We had, perhaps, twenty-five or thirty cases in the hospital since spring, and four cases of mixed infection is certainly a large proportion. I have been astonished with the frequency that malaria has complicated everything this summer. I have not seen so much before as this year.

Dr. Simon Flexner : Without knowing the statistics exactly, I should agree with what Dr. Preston has just said, that the proportion of mixed infections this year is unusually high.



## Selected Articles.

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### THE OPERATIVE TREATMENT OF INGUINAL HERNIA, WITH A REVIEW OF NINETY-SEVEN CASES— PREFERABLE METHOD OF OPERATION.

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By J. COPLIN STINSON, M.D. TRIN.,  
SAN FRANCISCO.

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**I**N deciding on a cure for inguinal hernia, the problem is to close the breach in the abdominal wall, and furnish a canal for the safe transmission of the spermatic cord. Until the more recent methods, the results from operative treatment were failures in a large proportion of cases. Even now few are so successful that failures do not sometimes occur. I believe that in an immense majority of cases the operation is followed by a complete and permanent cure; that in the great proportion of those remaining the patients are greatly benefited by the operation; that even the slight disfavor with which the operation is regarded by some is due to the bad results obtained by surgeons whose technique has been imperfect. I would emphasize this point: that the operation<sup>1</sup> should not be performed except by surgeons familiar not only with the surgical principles involved, but also with the special anatomical conditions associated with the hernia. In looking over my list of cases in which I performed or assisted in radical operations for herniæ while house surgeon at the New York Post-Graduate Medical School and Hospital, and since I left that institution, I find they have numbered 97. An analysis of these, of the methods employed, of the results obtained, and the description and recommendation of what I consider the preferable method of operation, may help to determine the question as to the value and justifiability of operative treatment. Of the 97 operative cases, 79 were inguinal, 5 femoral, 7 umbilical, and 6 ventral. Various methods were used in operating for inguinal hernia—Bassini's, Barker's, Macewen's, and a modification of Championnière's. As I stated at the beginning, an operation to be followed by a cure should fulfil the following conditions:

(1) It should cause total obliteration of the hernial sac. (2) It should

allow for the safe transmission of the cord, *i.e.*, the cord should not be subject to pressure in any part of its course. (3) It should not result in atrophy or inflammation of the testicle, nor in pain, thickening, or inflammation, nor in any manner interfere with the function of the cord or its structures. (4) Should close the breach in the abdominal wall.

I shall now describe in detail what I consider the preferable operation for the cure of inguinal hernia. (1) The external incision begins nearly on a level with the anterior superior spine, is carried obliquely downward parallel with and about one-half an inch above Poupart's ligament, and ends at the centre of the external ring. (2) The incision divides the structures superficial to the aponeurosis of the external oblique; the latter is well exposed and a director passed through the external ring beneath this layer, which is slit up to about one-half an inch above the internal ring; the cut edges are lifted up and freed from structures beneath, exposing internally the internal oblique and transversalis muscles, and sometimes the rectus, externally till the shelving sharp edge of Poupart's ligament is clearly seen. (3) The cord and sac are examined, and any adhesions to surrounding structures separated. Next they are separated from each other well up within the internal ring. The sac is examined and carefully opened with a short snip of the scissors; the opening is enlarged with the fingers, and if any adhesions exist internally these are separated. If the contents is omentum, and is matted together, thickened or inflamed, or in any other manner changed, it should be tied off; each vessel in the omentum is to be ligated separately, and even the smallest oozing vessel must be tied. Hold up the sac, after removal of its contents, and where it merges into the general peritoneal cavity close it with a running suture of fine catgut. When released the sutured edge immediately slips back into the abdomen. The cord and its vessels are then examined, and any varicose or superfluous veins excised high up within the internal ring. Examine the canal<sup>2</sup> for masses of adipose tissue, which should be removed. (4) Expose the internal ring—an opening in the transversalis fascia—by retracting the internal oblique and transversalis muscles. Any masses of adipose tissue which crowd into the ring from the subserous tissue should be removed; take the cord and place it at the lower angle of the internal ring. Now close the internal ring with a sterilized chromicized tendon suture, commencing at the upper angle; suture from above downward, leaving only sufficient room at the lower angle for the cord and its full vessels to play through. The edges of the aponeurosis of the external oblique are retracted, and the edges of the internal oblique and transversalis (sometimes the edge of the rectus on the inner side), and the shelving edge of Poupart's ligament on the outer side, are brought together with three or more interrupted chromicized tendon sutures; the cord is

situated beneath the above layers of sutured structures ; at the lower angle close to the pubic bone only sufficient room is left for the cord and its full vessels to play through. (5) The divided edges of the aponeurosis of the external oblique are brought together with a continuous tendon suture. (6) The skin edges are brought together with a continuous catgut suture, without drainage.

The steps of the above operation are simple, easy to follow, and the operation may be quickly performed. In an uncomplicated case it may be completed, depending on the dexterity of the operator, in from fifteen to thirty minutes. It has many advantages, and should be followed by better results than the other recent operations. It has all the advantages, without the disadvantages, of the Bassini operation. It will be observed that the cord is not disturbed, is not displaced, is not subject to pressure, is not transplanted between two layers of buried sutures, and is not on the stretch, as in Bassini's operation. The cord is not transplanted between the edges of the freshly cut muscular layers, and thus subject to the liability of pressure from muscular contraction, or from adhesions to surrounding structures from its internal to its external ring, as in Halsted's operation. In both the Bassini and Halsted operation the function of the nerves and vessels of the cord and the cord proper may be interfered with by pressure on, abnormal position of, or adhesions to surrounding structures ; and subsequent to these operations there may be thickening, swelling, tenderness, or inflammation of the cord, or atrophy, swelling, or inflammation of the testicle.<sup>3</sup> Thickening and swelling of the cord and its structures I have frequently seen follow Bassini's operation.<sup>4</sup> The natural position of the cord is at the lowest part of the internal ring, and in the operation I have described in detail its position has not been changed. As to the formation of a new internal ring this is absolutely unnecessary ; the suturing of the enlarged internal ring reduces it to its normal size, nor is it necessary to place the cord superficial to the internal oblique and transversalis as in Bassini's, or superficial to the external oblique as in Halsted's operation, for reasons already mentioned, and for those following. After closing the internal ring as I have described, this orifice is small ; the cord is not on the stretch, but hugs its lower angle where it passes down into the pelvic cavity to the base of the bladder, whereas in the Halsted and Bassini operations the cord, from its new position and relations, is on the stretch, and, entering the ring less obliquely, the ring with its contents is more likely to favor a return of the hernia. The very high removal of the hernia sac,<sup>5</sup> the removal of every altered portion of peritoneum at its neck, the separation of adhesions internally and externally with suturing of the neck of the sac with fine catgut, leaves a smooth surface to the peritoneum, whereas if its neck were ligated there would



be more or less puckering of the peritoneum which would interfere with the free movement of the bowels over its surface. In ligating omentum it is necessary to remove those portions that are abnormal ; altered omentum must not be returned to the abdomen, as it acts as a foreign body, and has at times set up peritonitis.<sup>6</sup> I would not advise the pulling down of healthy omentum and its removal, as trouble may follow. Several cases are recorded of local peritonitis. In one case the result was fatal from internal hæmorrhage, death occurring from slipping of the ligatures from the omental stumps. Even the smallest omental blood-vessels must be ligated before the stumps are returned to abdomen, for the reason that there is a diminution of the muscular cells in their walls ; consequently, if a small oozing vessel is returned, its walls do not contract and retract like those of other arteries, and an internal hæmorrhage will result. Halsted lays great stress on excision of superfluous veins to reduce the size of the cord, and reports three cases of atrophy of the testicle following his operation. It is advisable where there is a varicose condition of the veins to excise them high up within the internal ring, otherwise no immediate and little or not remote benefit will be derived. It is obvious that if the excision is performed in the inguinal canal the bulk of the cord is not materially reduced at the internal ring. I have frequently met with slightly enlarged veins due to pressure of the sac and its contents ; after removal of the sac the veins resume their normal size. It is highly important to remove all particles of fat from the inguinal canal, internal ring, and subperitoneal tissue, especially if the masses from the latter bulge into the ring. The closure of the internal ring is the most important step of the operation ; most of the success depends upon the suture of this opening in the transversalis fascia. In closing this opening lift up its edges with forceps, thus avoiding injury to the surrounding and subjacent structures, especially the epigastric artery which runs along the inner side of the ring, and keep the immediate work well in view in the centre of the field of operation ; suture the ring from above downward, commencing at the upper and leaving only enough room at the lower angle for the cord and its full vessels to play through. In the above step and for suturing the internal oblique and transversalis to Poupart's ligament a blunt-pointed hernia needle is to be preferred for passing the sutures. The cord and its structures are located beneath the sutured edges of the above-mentioned structures. The character of the suture material is very important. Sterilized chromicized kangaroo tendon is the most suitable material for a buried suture. Great credit is due Dr. Marcy, of Boston, for bringing to notice the merits of this suture material. Tendon is the most suitable, it is non-irritating, and it is not absorbed for two or three months. Busse<sup>7</sup> in his experiments showed that perfect tendinous union does not

occur under ten weeks, or just about the period for the absorption of the kangaroo tendon.

I shall now proceed to analyze my cases. Chromicized kangaroo tendon was used as a buried suture in 82 cases, chromicized catgut in 5, silk in 5, silkworm gut in 4, silver wire in 1. In the cases where tendon was used all the wounds healed by primary union except 2. In these suppuration was slight and located superficial to the aponeurosis of the external oblique. In those in which catgut was used all healed by primary union, but in one case three weeks after the operation two sinuses formed; one closed, but at the last report the other was still discharging slightly. In those in which silk was used one was followed by suppuration with a subsequent discharging sinus. In those in which silkworm gut was used two of the wounds suppurated and cicatrization was not complete for weeks. During the healing some of the worm gut was thrown off. In the case in which silver wire was used catgut was used to ligate the blood-vessels, this wound suppurated very badly, and took weeks for complete cicatrization.

*Final results.* Most of the operations analyzed were performed during 1893 and 1894, so that in many sufficient time has elapsed to enable us to judge of the results. In the 82 cases in which tendon was used there has not been a single relapse, nor has there been any in the cases in which chromicized catgut was used. In those in which silk was used there have been no relapses, but in one case in which a sinus formed the discharge continues, and this will keep up, I think, until the silk is thrown off or removed by a second operation. In those cases in which worm gut was used there were no recurrences, but in the two cases in which suppuration occurred the resulting scars were not strong, and as soon as cicatrization was complete light, well-fitting trusses were at once supplied. In the case in which silver wire was used there was no recurrence. The resulting scar was not strong, and here, too, a light-fitting truss was at once supplied as soon as cicatrization was complete.

*Mortality.* In the 97 cases operated upon the mortality was *nil*. There was one case not included in my list, a neglected strangulated inguinal hernia. The patient was admitted to the Post-Graduate Hospital and was at once taken to the operating room. Anæsthesia with ether was commenced, but he had scarcely taken five breaths before respiration ceased.

I shall now refer briefly to the results obtained by Dr. William B. Coley, who operates at the New York Post-Graduate Hospital. Dr. Coley reports<sup>8</sup> 133 cases of operations for various kinds of hernia; 124 were for inguinal hernia. In 117 cases kangaroo tendon was used as a buried suture. All but three were traced. There were no relapses. The only case Dr. Coley reports in which recurrence took place

after the use of the tendon was one of umbilical hernia. In two cases silk was used. Both relapsed inside of three months. Chromicized catgut was used in five cases with no relapses. Dr. Coley's mortality was one death from pneumonia in a child, who died on the fifth day after operation. There was no abdominal complication nor suppuration in the wound. Dr. W. B. De Garmo,<sup>9</sup> in a paper on surgical treatment of hernia, strongly advocates the use of tendon as a buried suture.

*Dressings and after-treatment.* In many cases aristol was dusted on wound. Over this bichloride gauze was held in place by strips of rubber plaster; finally cotton and a spica bandage were applied. The scrotum was left exposed and the testicles were supported. Unless there were indications for interference, the dressings were not disturbed till the eighth day. By this time the catgut was usually absorbed. Firm dressings were reapplied and the patients were kept in bed two weeks, or longer if possible. If the bandages became loose they were reapplied, and were not removed till one month after the operation. None of the patients wore trusses after the operations except those whose wounds suppurated badly, and who had commencing relapse. The operation I have described in detail is to my mind the ideal one, has all the advantages with none of the disadvantages of the other recent operations, and, I think, has the additional advantages which I have endeavored to sum up in my paper.—

*Medical Record.*

<sup>1</sup> Championniere : Cure Radical des Hernies.

<sup>2</sup> W. B. DeGarmo : Clinical Lecture. Post-Graduate Hospital, New York.

<sup>3</sup> W. S. Halsted : Johns Hopkins Reports, May 15, 1895. Atrophy of testicle in three of his cases, following his operation.

<sup>4</sup> W. B. Coley, in the *American Journal of the Medical Sciences*, May, 1895, reports case of orchitis which went on to suppuration following Bassini's operation.

<sup>5</sup> Championniere : Cure Radical des Hernies.

<sup>6</sup> W. B. DeGarmo : Clinical Lecture. Post-Graduate Hospital, New York.

<sup>7</sup> Busse : *Deutsche Zeitschrift für Chirurgie*, 1891-92, xxxi.

<sup>8</sup> Coley : *American Journal of the Medical Sciences*, May, 1895.

<sup>9</sup> *Medical Record*, June 1, 1895.



## GASTRIC AND INTESTINAL ANTISEPSIS.

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THE advance in our knowledge of the biological and chemical changes taking place in the digestive tract has made itself felt in various directions. The observations of Brieger and others upon highly poisonous chemical bodies, formed under pathological circumstances, have done a great deal to clear up much that was formerly clothed in doubt, and new light has been thrown upon the causation of diseases which have been hitherto obscure. We have had material enlightenment upon the pathology of cholera, cholera nostras, and the vomiting and diarrhoea of children, and suggestions—somewhat crude in some instances—have been thrown out regarding the nature of such affections as chlorosis, progressive pernicious anæmia, and other more or less definite forms of auto-intoxication. It is, therefore, no matter for surprise that the subject of disinfection of the intestinal canal has become prominent, and the attempt to discover an ideal intestinal antiseptic has become as keen as the struggle for a perfect antipyretic. The question is, indeed, at the present time passing through a stage which recalls the animated discussions that were wont to be waged from time to time over the use of fever-reducing remedies. We have some writers who proclaim the importance of intestinal antiseptics, and who carry out that view by a free use of antiseptic substances ; whilst, on the other hand, this procedure is deprecated by other observers, who regard it as useless, if not harmful. In truth, our ideas are in a state of transition, for our knowledge has not yet reached the point at which it would be safe to dogmatize. We are ignorant, for example, of the exact function fulfilled in digestion by the bacteria of the intestinal canal. That they play an important part is most probable, though the experiments of Nuttall and Thierfelder\* go to show that their presence is not necessary to the life of the lower animals and man, and that the digestion of animal food can be carried on without their agency. It may therefore serve a useful purpose if attention is drawn to some of the considerations which should influence us in arriving at some principles of guidance.

One of the most important points to be borne in mind in the question of the disinfection of the digestive tract is that the conditions under which the canal carries on its functions "should be as far as possible preserved. To this end it is desirable to maintain the secretion of the gastric juice and to avoid anything likely to impair its physiological value. That it possesses antiseptic properties has long been known; and we have it on the authority of Bunge† that the quantity of free hydrochloric acid in man exactly corresponds to the quantity which is necessary to prevent the development of putrefactive organisms. Further evidence may be obtained from the fact that in many of the lower animals a juice, very rich in mineral acid, but containing no ferment, is secreted. This property of the gastric juice should not be lost sight of in the administration of antiseptics, for it is not improbable that some of them in large doses affect the secretion of hydrochloric acid, which may be already impaired by other causes. In addition, injury to the gastric ferment may be readily caused; for Kobert‡ has pointed out that the enzymes of the digestive tract are interfered with by small doses of many antiseptics, and rendered quite inert by large amounts. Again, if we go to the starting-point of fermentative change, we find, according to Ewald, that it is frequently to be traced to some impairment of the motor function of the stomach and bowel. Decomposition sets in when food stagnates in the digestive tract, and simultaneously, or in consequence, we have a diminution in the secretion of the gastric juice. The abnormal products irritate the mucous membrane and produce acute or chronic catarrh. Under these circumstances, where we have cause to suspect stagnation and decomposition, it is surely more reasonable to adopt the simple expedient of emptying the stomach of its contents. The introduction of a soft tube and washing out the organ is followed by the best results, even in children, and we can leave the stomach empty for a time in the hope that the gastric secretion will be re-established. In intestinal obstruction, where vomiting is prominent, the relief afforded to this symptom by lavage may be partly explained on the supposition that the toxins developed during stagnation are removed. The administration of pepsin and hydrochloric acid will help to check fermentation, and general means should be adopted to improve the muscular power. In this connection, the vegetable bitters are useful, as in addition to being tonics they act as antiseptics (Schmiedeberg). It has further been demonstrated by Schüß that the temperature of the ingesta is of great importance in this respect. He found that 300 grammes of water of a temperature of 18° C. passed through the stomach in ten minutes, that medium (28° C.) and high (40° C.) temperatures led to a marked increase in the motility of the organ, and that iced water, on the other hand, decreased it. This furnishes us with an explanation of the good effect of a large draught of hot water.

In dealing with the disinfection of the intestinal canal, some of the reasons stated above against the indiscriminate use of antiseptics may be urged with even greater force. Kobert's warning that injury may be done to the ferments applies more strongly, or we have the enzymes of the pancreatic and intestinal secretions impaired or destroyed. It is matter for some reflection whether the systematic administration of powerful antiseptics throughout the course of such a disease as typhoid fever does not stand in danger of defeating its object by interfering with powers which are already weak, and inducing digestive disturbance which can be ill-borne. And, still further, it is more than likely to lessen the natural defence of the organism against intestinal poisons, for it is obvious that the splitting up of those bodies and rendering them innocuous—the work, most probably, of bacteria—will be arrested, and their excretion by the urine stopped.

Our first indication in carrying out disinfection of the bowel is to empty it, and for this purpose purgatives are pre-eminent. Amongst these the salts of mercury are easily first. Calomel fulfils the requirements of an ideal intestinal antiseptic. It induces free movements of the bowels both by its local action and by excitation of the intestinal ganglia, whilst the risk of its affecting the mucous membranes is but small. As it passes down the intestinal canal it is converted into the perchloride which restrains excessive intestinal decomposition. This change takes place very slowly and gradually in children, as the intestinal contents are not so rich in chloride of sodium as in the adult. Add to this Wassilieff's observation, that it is without action on the digestive ferment, and we have in calomel a substance whose mode of action is simply and easily controlled. The use of perchloride of mercury in the summer diarrhoea of children is fully recognized, and Broadbent has emphasized its value in typhoid fever, and has drawn attention to the favorable action of a small dose of calomel in removing symptoms of oppression of the nervous system—possibly due to toxins—in that disease. On the other hand, we have a large and increasing group of antiseptics, the mode of action of which is not quite so clear. Some are said to be inert until they reach the intestinal canal, where they are split up into other bodies. Amongst these are included salol, betol, beta-naphthol, benzo-naphthol, etc., which decompose into simpler combinations possessing antiseptic properties. Unfortunately their action upon the intestinal function is not fully known, and the indications for their use are consequently somewhat indefinite. They have been administered regularly—according to some, with but indifferent success—in such diseases as typhoid fever, dysentery, pernicious anæmia, etc., and in the last-named disorder a good result is occasionally obtained from salol, as a case recorded by Dieballa shows.||



The relation of food to this question is necessarily a very intimate one. It would be impossible to discuss it adequately within the limits of this short article, and I allude to it last in order to emphasize its importance in gastric and intestinal antiseptics. One or two points may, however, be mentioned. It is a matter of everyday experience that many intestinal troubles yield simply to a change of diet. Diarrhœa in its various forms may be so treated with complete success, the probable explanation being that we starve the micro-organisms of their nutrient media, and they cease to develop. Much stress is laid by Kobert on the value of carbohydrates in the dietary. According to him, almost all carbohydrates possess an antiseptic as well as a nutritive function. They lessen albuminous putrefaction in the intestine by producing lactic, acetic, butyric, and other organic acids which destroy the putrefactive bacteria. It is desirable, therefore, that food should contain, besides proteids, a relatively large proportion of carbohydrates, for as often as the latter constituent is diminished the decomposition of the albumins becomes more vigorous, showing itself, as it frequently does, by the presence of foul gases exhaled in the breath.

I have drawn attention very briefly to some of the factors which seem to me to have a special bearing on this question. Our knowledge of the conditions under which intestinal antiseptics may be useful is widening every day, and it behooves us, in any attempt to assist Nature's efforts, to define as clearly as we can the limits within which such interference is useful. New antiseptics are constantly coming into use, bearing certificates of their power of arresting germ action. Very often such testimony is founded on culture experiments, and it is not very clear that their behavior in the intestinal canal can be usefully compared. We want more precise indications for their administration, and until experience accumulates it is well that we should have some principles clearly before us.—*The Practitioner*.

\* Zeitschr. f. physiol. Chemic, xxi., S. 189

† Physiolog. and Pathol. Chemistry.

‡ Lehrbuch der Pharmakotherapie.

§ Zeitschr. f. klin. Medicin, xxviii. and xxix.

|| Zeitschrift f. klin. Medicin, Bd. xxxi., Hft. 1 & 2, S. 47.

# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

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### A SIMPLE METHOD OF DISTINGUISHING DIABETIC FROM NON-DIABETIC BLOOD.

The author (R. T. Williamson, M.D. Lond., Medical Registrar, Manchester Royal Infirmary) describes a simple method of distinguishing diabetic from non-diabetic blood. He has found that diabetic blood is much more powerful than non-diabetic blood in removing the blue color from a solution of methyl blue. The reaction is so sensitive that the difference can be detected by the examination of a drop of blood obtained by pricking the finger. When *certain proportions* of blood and a warm alkaline solution of methyl blue are mixed together, the blue color is removed in the case of diabetic blood, but remains when non-diabetic blood is used. The following is the exact method employed:

Into a narrow test tube are placed 40 cubic millimetres of water (the capillary tube of a Gower's hæmoglobinometer, which is marked for 20 cmm., may be used for measuring the fluid), 20 cubic millimetres of blood are added, and then 1 cubic centimetre of a 1 in 6,000 watery solution of methyl blue, and afterwards 40 cubic millimetres of liquor potassæ. The tube is then placed in a capsule or vessel containing water which is kept boiling. At the end of four minutes the blue color disappears and the fluid becomes yellow if diabetic blood has been used, but in the case of non-diabetic blood the blue color remains.

In over thirty examinations of diabetic blood (from five cases of diabetes mellitus), the methyl blue solution was always decolorized; whilst normal blood and the blood from one hundred patients suffering from the

most varied diseases never decolorized methyl blue when mixed in the above proportions. Hence, by this simple method, a drop of blood from a well-marked case of diabetes mellitus may be readily distinguished from non-diabetic blood.—*Medical Press*.

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#### TENDER TOES OF TYPHOID FEVER.

The author calls attention to this distressing affection, which he thinks should be classified as a neuritis. Handford, describing one case, said there had been tenderness of the toes of both feet for some weeks past, so that the nails could not be cut on account of the pain it caused in the nail-bed and in the pulp at the end of the toes. In three other cases he had seen this pain in the toes, and in one of them in the arms also. In one of them a cradle had to be used to relieve the toes of the weight of the bedclothes. In none did muscular waste follow, nor definite loss of sensation. Osler did not think the condition due to the cold water treatment. Hot cocaine solution or cotton-wool seems to give most relief.—*Osler, Johns Hopkins Hospital Report*.



# OBSTETRICS

IN CHARGE OF

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## PROLONGED GESTATION.

Reckoning from the cessation of the last menses, the first feeling of life, and the objective signs, Dr. Szaszy reports a case in which gestation lasted three hundred and thirty days. The child was normally developed, and forty-nine centimetres long.—*Gyogyaszat Medical Record.*

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## CATHARSIS FOR PREGNANT AND LYING-IN WOMEN.

Dr. Edward P. Davis, at the last meeting of the American Gynæcological Society, read a paper on "Intestinal Bacteria as a Source of Infection Complicating Obstetric Operations," and, in closing the discussion which followed, said (*American Journal of Obstetrics*, August, 1896) he had asked several therapeutists regarding the best purgative to secure an antiseptic condition of the intestine. Prof. Han had told him that the best method of purgation to thoroughly render the intestine aseptic was the use of minute doses of mercury, particularly the bichloride. He advised  $\frac{1}{400}$ – $\frac{1}{120}$  of a grain of the bichloride of mercury several times a day for a number of days, in conjunction with the use of saline purgatives.

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## MANUAL REPOSITION OF FACE PRESENTATIONS INTO OCCIPUT POSITIONS.

In cases of mento-posterior positions a spontaneous termination of labor is rarely possible and a correction of the position is urgently indicated. The method of Baudelocque accomplishes this by a direct turning with the hand inserted *in utero*, while Schatz changes the curve of the trunk with the hand working through the abdominal wall. Thorn has combined

these two methods: the hand *in utero* pushes the face upward, while another hand pushes the occiput downwards; an assistant at the same time corrects the position of the trunk through the abdomen. Jungmann (*Arch. fur Gyn., Bd.*) reports three cases in which this method was successful. The method is recommended in mento-posterior cases, in which the os permits the entrance of two or three fingers; the head must be movable and the pelvis of normal or nearly normal dimensions. (All authors are agreed that it is malpractice to permit mento-posterior positions to persist and await spontaneous delivery. Interference is absolutely indicated. Our experience, however, leads us to recommend podalic version instead of attempting to change the face into an occiput position. The forces which were originally responsible for the face presentation generally continue to exist, and in many cases we are again confronted with a face position shortly after its manual correction. Podalic version is not more difficult than manual correction, and it permits the rapid termination of labor whenever desired.)—*A. Raymond-Schroeder in American Journal of Obstetrics.*

It is probably well in such cases to make an effort to correct the position by the method of Baudelocque or some modification of the same, but I have found it difficult or impossible to accomplish this result in the majority of mento-posterior positions. My experience coincides with that of Dr. Raymond-Schroeder, as expressed in his note; but I would go a little farther than he, and say podalic version is, *as a rule*, much more easy than manual correction, excepting in a small minority of such presentations.

A.H.W.

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#### UNCONTROLLABLE VOMITING IN PREGNANCY CONTINUING AFTER THE DEATH OF THE FÆTUS.

J. Fabre (*Marseille Méd.*, August, 1896) notes a case of uncontrollable vomiting in a primipara, 18 years of age, who had previously suffered from anæmia and hysteria. The vomiting began at the fifth month of pregnancy, and had continued up to eight and a half months, with increasing weakness. The foetal heart was not to be heard, yet the vomiting continued, and medicinal means were of no avail; it was therefore decided to induce premature labor, and Krause's method (introduction of a bougie into the uterus) was employed. On the day before this was done the patient was so weak as to require injections of caffein and ether, and of 200 g. of artificial serum into the subcutaneous tissue of the abdomen. Twelve hours after the introduction of the bougie into the uterus a dead female foetus was delivered by means of forceps. The vomiting still continued, and the patient died twelve hours later. The only lesions found at the necropsy were those of recent gastritis. The case is interesting, for

the death of the fœtus was not followed by a cessation of the vomiting, a circumstance probably due to the fact that here pregnancy was not the sole factor, but had superadded to it the pathological state of the stomach.—*British Medical Journal*.

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#### GLYCERINE IN THE INDUCTION OF LABOR.

Kossmann (*Therap. Monatsh.*, June, 1896) refers to the accidents which have occurred in induction of labor by injection of glycerine. He considers that they were caused by the drug being used in large doses for hygroscopic purposes, and not with the more physiological object of, as in the rectum, stimulating unstriated muscle. In spite of the previous records, he himself has used glycerine injections in two cases with marked success. The first was that of a woman who had been pregnant twice previously, and had on each occasion gone four weeks over her time and given birth to a dead child. This time gestation had lasted forty weeks. The patient was very large and wished extremely for a living child. Five c.cm. of glycerine were injected, with antiseptic precautions, into the cervical canal, and a colpeurynter introduced into the vagina. In a few minutes powerful pains began; the os dilated, and combined version became possible. This was done, and a healthy girl delivered within one and a half hours from the injection. The mother made an uninterrupted recovery. The second case was that of a multipara suffering from enormous varicose veins of the legs, vulva, and vagina, which had so obstructed the last labor that the child was born asphyxiated. Kossmann therefore decided to induce labor on this occasion at the thirty-fifth week. He injected five c.cm. of glycerine into the os, and placed a strip of iodoform gauze soaked in glycerine in the cervical canal, and a colpeurynter in the vagina. Five minutes later pains came on. Version was performed, and the child delivered with ease. The puerperium was uncomplicated, and the pains rapidly got well. He concludes that the injection of this quantity of glycerine into the cervical canal will bring on strong pains without leading to nephritis or any other untoward effect. This method is much more rapid and certain than puncture of the membranes, vaginal douches, etc., and is free from the danger of infection which attends injections into the uterine cavity itself. The introduction of the colpeurynter into the vagina serves to keep up the pains when once started, and therefore makes further injection of glycerine unnecessary. He recommends its use in combination with the injection as the best and, next to simple vaginal douches, the most harmless method of inducing labor.—*British Medical Journal*.



## UTERINE LEUCORRHOEA.

The following is a useful astringent and antiseptic injection for uterine leucorrhœa :

|                          |          |
|--------------------------|----------|
| Tannic acid, ʒij.        |          |
| Pure alcohol             |          |
| Beechwood creasote       | } aa ʒj. |
| D.stilled water, ʒviiij. |          |

M. A tablespoonful of this solution to be mixed with a quart of tepid water, and used as an injection. Three or four injections daily.—*The Practitioner*.

## PRURITUS OF THE VULVA.

In cases that are not parasitic, says the *Indépendance médicale*, M. Mussy advises the following applications :

|   |                        |              |             |
|---|------------------------|--------------|-------------|
| R | Finely powdered starch | .....        | 300 grains. |
|   | Bismuth subnitrate, {  | of each..... | 15 “        |
|   | Potassium bromide, }   |              |             |
|   | Calomel.....           |              | 8 “         |
|   | Powdered belladonna    | .....        | 3 “         |

M. To be applied twice a day. It is said to give almost instant relief.

When the itching affects the inner surface of the mucous membrane, it is preferable to prescribe the following :

|   |                            |       |             |
|---|----------------------------|-------|-------------|
| R | Infusion of mallow flowers | ..... | 1 quart.    |
|   | Cherry-laurel water        | ..... | 750 grains. |
|   | Borax                      | ..... | 150 “       |

M. To be used as an injection twice a day. After each injection, the parts are to be smeared with an ointment.—*Medical Record*.

## IRRITABILITY OF THE BLADDER AFTER DELIVERY.

In his new *Manual of Midwifery*, just published by the Macmillan Company, Mr. W. E. Fothergill, of Edinburgh, says that the following mixture is very useful in cases of post-partum irritability of the bladder :

|   |                           |                     |                         |
|---|---------------------------|---------------------|-------------------------|
| R | Salol,                    |                     |                         |
|   | Tincture of hyoscyamus,   | } of each, drachms. |                         |
|   | Infusion of buchu, enough |                     | to make 6 fluid ounces. |

M. S. : A tablespoonful three times a day.—*New York Medical Journal*.

## UTERINE HÆMORRHAGE.

Following abortion and attended with subinvolution :

|   |   |                |      |
|---|---|----------------|------|
| R | Fluid extract of ergot (Squibb's)       | .....          | ʒij. |
|   | Fluid extract of viburnum prunifolium.. |                | ʒij. |
|   | Tincture of cinnamon..                  | Enough to make | ʒij. |

M. Dose : Teaspoonful in hot water from two to six times a day.—Egbert, *Philadelphia Polyclinic*, October 31, 1896.

# SURGERY

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## EXTIRPATION OF THE RECTUM.

Extirpation of the rectum per vaginam, with utilization of the vagina to replace lost rectal tissue, is an ingenious addition to the resources of the rectal surgeon by Henry F. Byford (*Annals of Surgery*). Of the operation Dr. B. says:

Excision of the rectum by means of perineal section is practical only for the lower four inches, while excisions by the sacral methods are exceedingly bloody, and involve great mutilation. Hence I felt justified in a recent case in attempting the operation by what to me was a new route—viz., vaginal section. The disease extended somewhat higher than I supposed, and the case proved an exceedingly difficult one upon which to try a new method. Yet the mechanical difficulties were so perfectly overcome that the operation, although unsuccessful as far as the saving of life was concerned, seems to me worthy of record as a step in the right direction.

Mrs. Q. consulted me for a cylinder-celled carcinoma, somewhat larger than a large goose-egg, developed in the posterior and right lateral wall of the rectum. About one-third of it projected into the rectum. Its lower border was three inches from the margin of the anal skin, its upper border about two and a half inches higher up. As the mass was not fixed to the surrounding parts, although it extended above the bottom of the cul-de-sac of Douglas, I felt that it could be best reached by a vaginal section, and that the opening which would probably be made into the peritoneal cavity could be much more easily managed than it could from a sacral incision.

The patient was a nullipara, yet it was possible to sufficiently distend

the vagina by retractors, aided by a slight median laceration that occurred during the operation, to work advantageously. I first made a transverse vaginal incision about half an inch below and behind the cervix, and with the fingers separated the vagina from the connective tissue about the incision. I then separated the tumor and rectum from their connections as far up as and above the pelvic brim. Large gauze sponges were pushed up alongside the rectum to prevent hæmorrhage. The rectum below the tumor was now separated from its attachments and the tumor pulled down to the vulva. This manœuvre tore the cul-de-sac wide open and brought down into the vagina two inches of rectum, whose anterior surface was covered with peritoneum. That portion of the rectum containing the tumor was then excised between large hæmostatic forceps above and below acting as clamps. As the upper cut end of the rectum could not be brought down to meet the lower portion, it was sutured into the vaginal wound so as to close the peritoneal cavity and turn the rectum into the vagina.

As soon as the peritoneal cavity was closed, and before suturing the rest of the vaginal wound about the upper end of the rectum, I sewed around the lower end of the rectum (which was about two inches long) with catgut in such a way as to check the bleeding from the cut edges, but not to obliterate its lumen. The bleeding connective-tissue space was then packed anew with gauze strips whose ends were brought through the anus. The vaginal incision was completely closed around the rectum; thus the vagina and upper rectum were separated from the connective tissue and anus. It was my intention at another sitting to attach the lower portion of the rectum to an artificial opening in the posterior vaginal wall and close up the vaginal entrance. Thus the vagina would be made to replace the lost portion of the rectum, and the evacuations would occur naturally through the anus. In another case in which I had removed a portion of the recto-vaginal septum for carcinoma of the rectum, I closed the vaginal outlet and thus utilized the vagina. The patient lived for about a year, and passed the fæces naturally per rectum.

Having completed the operation and overcome the difficulties, I can look back and see how my technique might have been improved. The transverse incision might have been enlarged by a median line incision extending from its centre down, as in the letter **T**. If necessary to procure space, the median incision could extend through the perineal body, and thus expose the rectum more perfectly, as well as relax the vaginal outlet.

A large amount of packing should be used. The separation of the upper rectum leaves an immense oozing space, bounded above by partly



loosened peritoneal membrane. This space should be filled tight with gauze before the suturing commences. The separation of the upper rectum posteriorly might have been sufficient without such extensive lateral tearing, and thus much oozing would have been prevented.

L. L. McArthur in 1890 sutured the rectum into the vagina by means of the sacral incision.\* The patient always had sufficient warning of an evacuation to get to the closet, and had some control.

Dr. Joseph Price recently removed the uterus and a portion of the rectum by abdominal section, and sutured the rectum to the vagina, thus producing a "recto-vaginal anastomosis.†

Among the advantages of the vaginal method might be mentioned the following :

(1) The vagina can be made to take the place of the extirpated portion of the rectum.

(2) The excision can be done as high up as by the sacral method, and with less traumatism, and, in case the peritoneal cavity is opened, with less danger.

(3) An intraperitoneal exploration of the tissues about the rectum can be made before disturbing the rectum.

(4) If the operation has to be abandoned after the incisions are made, the wound is less formidable and in a better place.

(5) The patient is more comfortable after the operation than after the sacral methods.

Price's abdominal method possesses nearly all of these advantages, but is more dangerous, necessitates a removal of the uterus, and cannot be adapted to cases extending low down in the rectum.

McArthur's method is more dangerous in cases high enough up to involve an opening into the peritoneal cavity, and in all cases involves more traumatism.

#### OPERATIONS FOR THE CURE OF FEMORAL HERNIA.

J. C. Stinson (*Medical Record*) explains the lack of success in operations done for radical cure of femoral hernia by failure to restore to the parts, the sac having been removed, their physiological relations, and describes the operation as done by him.

(1) The external incision begins about one-half an inch below the spine of the pubis, and is carried upward and outward for about three inches, parallel with Poupart's ligament. This exposes the sac and the saphenous opening. Poupart's ligament and the spine are well exposed by dissecting up the superficial fascia. The iliac and pubic portions of

\* *American Journal of Obstetrics*, Vol. xxiv., p. 567.

† *Medical and Surgical Reporter*, May 16, 1896.

the fascia lata bordering the saphenous opening are each, in turn, lifted and freed sufficiently by blunt dissection from the structures beneath to expose clearly the canal and femoral ring.

(2) Any adhesions of the sac to the surrounding structures should be separated high up within the femoral ring. The sac is opened, and if any adhesions exist internally these should be separated. If the content is omentum, it should be removed, ligating the vessels only. To insure the ligatures not slipping, the "fixation" ligature should be used. The vessel to be tied is defined by spreading out the omentum, and a needle carrying the catgut is passed round the artery by piercing the tissues of the omentum surrounding the vessel. The ligature is tied and the vessel severed beyond it. By this means the ligature is fixed in the omentum and cannot slip. After clearing out the sac, its neck should be dragged down with forceps. The sac, neck, and peritoneum, as high as possible, are to be removed, and the cut edges united by catgut sutures (supra-correction of the peritoneum at the internal ring). The sutured edges, when released, slip back.

(3) The adipose and glandular tissues, etc., are removed from the saphenous opening and femoral canal.

(4) The femoral ring is exposed by retracting the iliac and pubic portions of the fascia lata, Poupart's ligament, and the deep crural arch. Any masses of fat, glands, etc., which bulge into the ring from the sub-peritoneal connective tissue should also be removed. The femoral sheath is now lifted with the forceps. The excess is trimmed away, and, the operator keeping the immediate work well in view, the internal opening is closed by bringing together the anterior and posterior layers of the femoral sheath at the femoral ring. The first stitch is inserted close to the outer side of Gimbernat's ligament, and also includes some of its fibres. Several stitches are inserted as described, approaching the femoral vein. The last one is placed near the septa separating the ring from the vein, but must not be inserted close enough to constrict, or in any other manner interfere with, the full vein. The number of sutures required depends upon the size of the ring. When Gimbernat's ligament is not well developed, sutures may be required as far inward as the pubic spine.

(5) The iliac and pubic portions of the fascia lata are retracted, and, commencing close to the pubic spine, Poupart's ligament and the deep crural arch are sutured to the contiguous portions of the fascia lata covering the pectineus and the reflection of this fascia passing behind the femoral sheath, each stitch extending to but not including any muscular fibres of the pectineus. Several sutures are passed in a similar manner approaching the femoral vein. The last must not be inserted near enough to constrict or in any other manner interfere with the full vein.

(6) Next the saphenous opening is closed. The first stitch is inserted above, close to Poupart's ligament, the needle being passed, first through the pubic portion of the fascia lata on the inner side of the saphenous opening, then through the iliac portion of this fascia on the outer side. Suture from above downward, leaving only sufficient room at the lower angle for the full saphenous vein. The number of sutures required here depends upon the size of the opening.

(7) The skin is closed with catgut, or fine silk, without drainage.

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#### CLOSING THE ABDOMINAL WOUND AFTER CÆLIOTOMY.

Dr. Augustin H. Goelet, Professor of Gynæcology in the New York School of Clinical Medicine (*Clinical Recorder*, July, 1896), believes that the best method of closing the abdominal wound after cœliotomy is to use a continuous suture of fine (No. 1) chromic catgut for uniting the peritoneum, and to include with this suture the muscle, but omit the fascia. Next, deep sustaining interrupted sutures of silkworm gut are inserted. These are made to include the skin fascia and muscular layer. Before tying these the fascia is united separately with a continuous suture of the same fine chromic catgut.

The silkworm gut sutures are now tied, the surface washed off, and dried carefully.

The ideal dressing for the wound is one which has no disagreeable odor and will keep it perfectly dry. This will prevent germ propagation. He now uses a boro-phenate of bismuth known as Markasol, which has given more satisfaction than anything else that has been employed.

This is antiseptic without being irritating, and is slightly absorbent and astringent. It will absorb the first oozing from the wound, but holds in contact with the margin of the wound the protective lymph which is thrown out to favor union. It is dusted plentifully over the wound covering it and the sutures completely; over this is placed a layer of plain sterilized absorbent gauze, and over this several layers of absorbent cotton, which is held in place by strips of rubber adhesive plaster (nearly encircling the body) and a many-tailed bandage.

This dressing may be left undisturbed until the sutures are removed. Then the same powder is again used and a similar cover dressing reapplied.

Since adopting this method of closing and dressing laparotomy wounds they have given no trouble whatever, but have invariably healed by first intention, and the eschar is firm and unyielding.



## THE RADICAL CURE OF HERNIA BY OPERATION.

After briefly reporting thirty-six operations for the radical cure of hernia, Macartney (*The Lancet*, London, 1896, No. 8, vol. ii.) calls attention to two important points in technique. The first is "not to close the wound until all hæmorrhage has ceased, because the laxity of the tissues is such as to encourage reactionary bleeding when the wound is closed up and the patient comfortably warm in bed"; and the other is that he always opens the sac of the hernia.

Regarding the former, those who have had the annoyance of consecutive bleeding after one of these operations, with distension of the wound, and have witnessed the delay in healing and the uncertainty of the final result in consequence, can testify to the necessity for the exercise of unusual care to avoid this unfortunate accident.

The latter is a precaution that will, in rare instances, lead to the detection of either omentum or intestine in what appeared to be an empty sac, as is illustrated by two of Dr. Macartney's cases.

# THERAPEUTICS

IN CHARGE OF

**GRAHAM CHAMBERS, B.A., M.B. Tor.,**

Professor of Analytical Chemistry and Toxicology, Ontario College of Pharmacy ; Lecturer  
in Organic Chemistry and Toxicology, Woman's Medical College ;

AND

**WILLIAM LEHMANN, M.B. Tor.,**

Physician to the Home for Incurables and House of Providence.

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## EUCAINE HYDROCHLORATE.

Professor O. Liebreich, in the *Therapeutische Monatshefte* of June, 1896, referring to investigations on Eucaine, says it is a perfect substitute for cocaine, which does not affect the heart, is permanent in solution, and is less expensive.

The clinical trials so far made correspond in their results with those obtained by animal experimentation. Eucaine hydrochlorate in 2 per cent. solution has been used in the Ophthalmic Clinic of the Berlin University in varied affections of the eye, and has been found to be in no way inferior to cocaine as regards the setting in, duration, and intensity of the anæsthesia. It begins after two or three minutes, and lasts, on an average, from ten to fifteen minutes.

It differs from cocaine, however, in the absence of ischæmia. As in animals, it causes in the human eye a slight hyperæmia, whilst the pupil and accommodation remain uninfluenced. Eucaine is, therefore, preferable to cocaine in ophthalmologic practice in all cases where a local anæsthesia alone is wanted. Where an ischæmia action is also wanted, as in the inflamed eye, cocaine should be employed.

Reichert has noted the anæsthetic effects of eucaine in affections of the nose and throat. For the anæsthetization of the muscosæ Schleich believes that it should be substituted for cocaine in all cases. Used by the infiltration method it causes complete anæsthesia, but the infiltration itself is not so absolutely painless as that of cocaine.

The dosage and concentration should be about the same as that of cocaine. Kiesel indeed claims that as much as two grams (30 grains) of eucaine can be injected without deleterious effects. Judging by the

results on animals, it seems to be less poisonous than cocaine ; but the difference is not a very great one. We cannot consider eucaine entirely harmless ; and for the present, at least, should not exceed the dosage proper for cocaine without especial reasons.

One important advantage of eucaine remains to be mentioned, and that is that its solutions are much more stable than those of cocaine. They are also not decomposed by boiling, and can, therefore, be sterilized by heat.

In conclusion, Liebreich gives the following as the principal reactions of the hydrochlorate of eucaine :

(1) Caustic and carbonated alkalis and ammonia cause the precipitation of the eucaine base from a watery solution of the hydrochlorate as a glutinous, coagulating sediment. Cocaine hydrochlorate shows the same reaction.

(2) Heating solutions of eucaine hydrochlorate with a little chloride of iron causes a temporary yellow and orange discoloration; a similar reaction occurs with the hydrochlorate of cocaine.

(3) If to 5 c.cm. ( $1\frac{1}{4}$  drachms) of a 1 per cent. solution of hydrochlorate of eucaine there be added three drops of a 5 per cent. chromic acid solution, it causes the immediate appearance of a beautiful, crystalline, lemon-yellow precipitate. No precipitate occurs under the same condition with cocaine hydrochlorate.

(4) When 5 c.cm. ( $1\frac{1}{4}$  drachms) of a 1 per cent. solution of hydrochlorate of eucaine is decomposed by the addition of 3 c.cm. (45 minims) of a 10 per cent. iodide of potash solution, it causes a milky discoloration. On standing for a short time, the entire solution coagulates into a thin crystalline mush, with the separation of handsome colorless scales of iodide of eucaine. Under similar conditions, solutions of cocaine hydrochlorate remain perfectly clear.

*Local action.* A 2 to 5 per cent. solution of eucaine instilled into the eye of an animal, as a dog or rabbit, caused complete local anæsthesia in from one to three minutes. It began in the cornea, and spread from thence to the conjunctiva, and lasted on an average from ten to twenty minutes. It was readily prolonged by repeating the dose. The pupil was not dilated, and reacted well to light. Injected under the skin eucaine caused complete anæsthesia of the part so that the reflex could not be evoked even with a needle. A similar complete local anæsthesia of the mucosæ was effected when a eucaine solution was painted over it.

The general action of the drug, both in cold and warm blooded animals, consisted in a marked excitation of the entire central nervous system, followed by paralysis, in toxic doses going on to death. Even 0.002 gram ( $\frac{1}{33}$  grain) caused irritability, heightened reflexes, inco-ordination,



and finally general paralysis in the animals experimented with. Small doses administered to mice and rabbits caused increased reflex excitability, and increased but weakened respiratory movements. Medium doses of 0.02 to 0.03 gram ( $\frac{1}{3}$  to  $\frac{1}{2}$  grain) per kilogram (35 ounces) of body weight of rabbits caused repeated tonic and clonic convulsions. The animals lay senseless on their sides, with dyspnoea, opisthotonos, and finally paresis of the posterior limbs. These phenomena were most marked when large toxic doses of 0.10 to 0.15 gram ( $1\frac{1}{2}$  to  $2\frac{1}{4}$  grains) per kilogram (35 ounces) were administered; the convulsions returned continuously, and affected all the muscles of the body. The animals finally died when the paralysis reached the respiratory muscles.

When the dose was not a fatal one, the convulsions gradually ceased, the increased reflex excitability disappeared, and the paresis of the hind limbs slowly improved.

The effect of eucaïne on the central nervous system is therefore at first excitant, and later, in toxic doses, paralyzing. The paralysis is a central one, for if the sciatic nerve of a frog poisoned with eucaïne is exposed, and its peripheral end irritated with the induced current, the limb reacts in a normal manner.

As regards its action on the heart and the blood vessels, the subcutaneous and intravenous injection of small and medium doses slows it on the average from twenty to thirty beats per minute, but without otherwise modifying the beats, or increasing the blood pressure. This effect on the pulse is caused by the excitation of the central vagus; for section of the vagi causes an immediate increase of the pulse to the normal and above it, together with an increase of the blood pressure. Death occurs from paralysis of the respiratory centres, for the heart continues to beat for some time thereafter.

In all these points eucaïne is similar physiologically to cocaine. Yet there are some important differences, which must not be forgotten. In the first place eucaïne is *less poisonous than cocaine*. Whilst the animals treated with eucaïne survived, other animals injected with the same doses of cocaine died. The pulse with eucaïne is always decreased in frequency; with cocaine there is a primary acceleration. As regards their local action, the commencement of the anæsthesia, its duration and intensity, there is no difference between the two substances. But eucaïne causes no ischæmia; on the contrary, vascular dilatation occurs. A further difference is that the pupils are not affected; mydriasis does not occur, and the reaction to light remains normal.

Another difference of great importance is that eucaïne does not, like cocaine, induce mydriasis and paralysis of accommodation. The pupil is not dilated at all, and reacts well to light; the accommodation remains normal.

This is a property of the greatest importance in practical ophthalmology and favors the employment of eucaïne in cases in which a production of ischæmia with the anæsthesia is not required. In violent inflammatory conditions of the eye, eucaïne also promptly produces anæsthesia, but the ischæmic action fails; and consequently for such cases cocaine will have the preference. Both drugs diminish the intra-ocular pressure about equally.

Its last advantage is that the eucaïne solutions are permanent and do not, like those of cocaine, decompose when kept. Cocaine solutions are decomposed when they are boiled for the purpose of sterilization, thereby losing their property as a local anæsthetic; and the decomposition products have an irritant effect if such a solution is employed. Solutions of eucaïne on the other hand do not suffer decomposition, even when boiled for a long time.

Eucaïne has thus been shown by experimentation on animals and on the human subject to have very marked local anæsthetic properties which render it worthy of being placed by the side of cocaine in ophthalmological practice. It has the advantage over the latter in that it has no effect on the pupil or on accommodation; that it is less poisonous than is cocaine; and that, whilst the absence of ischæmic effects render it less suitable in certain cases, in others its slight hyperæmic action will be distinctly advantageous.

# GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

EDMUND E. KING, M.D. Tor., L.R.C.P. Lond.,

Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables; Pathologist, Toronto General Hospital.

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## CONCERNING THE SO-CALLED HYPERTROPHY OF THE PROSTATE GLAND AND THE ANATOMICAL CAUSE OF THE SENILE INSUFFICIENCY OF THE BLADDER.

In a preliminary report on this subject before the Eighth Polish Surgical Congress in Krakow, Dr. Stanislaw Ciechanowski presented the following conclusions (*Centralb. f. Chir.*, 1896, No. 32):

I. (1) The arterio-sclerosis must not be considered as the cause of the changes in the kidneys, bladder, and prostate, as has been claimed by the Guyon school.

(2) The anatomical explanation of the insufficiency of the bladder, in all cases in which it is connected clinically with the so-called prostatism, is a quantitative change in the relation of the bladder muscles to the connective tissue.

(3) This quantitative change seems to be a regular phenomenon in advanced years, and becomes more marked the older the patient grows. It reaches a higher degree when, in addition to the condition mentioned, there is a mechanical obstacle to the escape of the urine. The symptoms are most marked when, besides these two conditions, chronic inflammation of the bladder sets in. As a rule, all these factors play a part. Exceptionally only one, *e.g.*, the senile atrophy of the bladder muscles, which can be demonstrated anatomically, may give rise to complaints of urinary troubles. The influence of these damaging conditions can be in some measure compensated for by the ability of the bladder muscles to hypertrophy. The muscular hypertrophy of the bladder develops whenever there is a mechanical obstruction which interferes with its ready evacuation. An exception to this rule is rare.

The final effect of these factors depends upon their sum. In coming to a conclusion in any case they must be all taken into consideration.



II. The so-called hypertrophy of the prostate seems to have very little in common with homoplastic new formations. On the contrary, the hypertrophy in the condition known as prostatism must be looked upon as a primary factor, and almost always depends upon chronic inflammatory changes, which take place either in the glandular part or in the stroma, or, in most cases, in both.

The result of these inflammatory changes, which by no means terminate always in the hypertrophy of the entire organ, and which resemble greatly chronic post-gonorrhœa inflammation of the prostate, seems to depend on their extent, but, above all, upon their localization.

The more central the inflammatory changes of the stroma, and the nearer the periphery the changes occur in the glands, the greater the probability that the end-result will be hypertrophy.

The opposite of the above-mentioned changes may have no effect on the size of the prostate, but it is not impossible that prostatic atrophy would occur in certain cases.

Generally speaking, the author asserts that in the majority of aged individuals whom he has examined there was in the prostate evidence of a very prolonged inflammation demonstrable anatomically, which, although not always, yet in some predisposed conditions caused an enlargement of the glands, improperly termed hypertrophy.

The so-called prostatic hypertrophy seems, as a rule, to depend on these chronic inflammatory changes, even if it does not represent the only termination.

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#### URETHRAL NEUROSES.

Dr. F. C. Valeline (*The Chemical Recorder*, October, 1896), in a paper on urethral neuroses, sums up as follows :

As conclusions I beg to offer the following :

(1) The urethral neuroses (urethrospasm, hyperæsthesia, neuralgia) are not diseases, but symptoms.

(2) They should be treated as diseases alone only when their cause cannot be ascertained.

(3) No urethral neuroses should be so diagnosed until the urethroscope has revealed a healthy urethra.

(4) Sedatives, hypnotics, and local anæsthetics give only temporary relief and exercise no permanent effect.

(5) Local treatment should be continued with ever-lengthening intervals long after all symptoms of the neuroses have disappeared.

(6) No patient with unexplained pain in the urethra or difficulty in urination should be condemned as a hypochondriac or malingerer.

(7) All such cases, whether their pathology is discovered or not, can be cured, or so materially relieved, as to make their existence endurable.

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#### THE EMPLOYMENT OF ARGONIN IN THE TREATMENT OF GONORRHOEA.

Bender (*Jour. de Méd. de Paris*, May 10, 1896) gives the following as the result of his observations in the treatment of gonorrhœa by this drug :

Argonin dissolves in ten times its weight in water ; four fluid drachms of this solution contain an amount of silver equivalent to fifteen grains of the nitrate. This solution does not form a precipitate in the presence of chloride of sodium or the albuminoids.

Jadossohn's treatment of gonorrhœa consists in the injection, three or four times a day, of about three fluid drachms of this solution, gradually increasing the strength up to 7.5 per cent. The solution should be retained in the urethra, if possible, for ten minutes. The injections are not absolutely painless, and have no astringent effect. Fifty-four cases treated in this manner recovered in a maximum of six weeks. In thirty acute cases the gonococci disappeared in one week in twelve cases, in two weeks in fourteen cases, in three weeks, and less, in four cases. In twenty-four chronic cases the gonococci disappeared at the end of one week in seven cases, at the end of two weeks in ten cases, and in three weeks in seven cases. After the gonococci disappeared ichthyol was used. Failure occurred in two cases only.

## Editorials.

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### MEDICAL FACULTY OF UNIVERSITY OF TORONTO— ANNUAL BANQUET.

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THE tenth annual dinner of the Medical Faculty of the University of Toronto was held at the Rossin House, Toronto, Wednesday evening, December 2nd, and was quite successful in all respects. One of the special features of the evening was the superabundant feeling of loyalty which was shown by many of the speakers in their references to the long reign of Her Majesty the Queen, and the great work which has been accomplished during the Victorian age. No announcements of great importance as to the Medical Faculty were made, but general satisfaction was in evidence with reference to its prosperity, and the kindest wishes for its increased success in the future were freely expressed. To be made president of an annual dinner is probably the highest honor in the gift of the students. This year the choice fell on Mr. A. T. McNamara, who made an excellent presiding officer. We publish his address in this issue of *THE CANADIAN PRACTITIONER*. The speeches of the student speakers were generally good, being short, crisp, and bright. The management was admirable, all the proceedings being carried out without a hitch. The menu card contained many illustrations and diagrams which were unique and interesting. Some great artist is evidently going to make his mark in the world in the near future.

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### TORONTO BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

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AT a meeting of the members of the British Medical Association resident in Toronto it was decided to revive the Toronto branch formed here some three years ago, but which subsequently lapsed. In view of the approaching meeting of the British Medical Association in Montreal next year, it was thought that the formation of a branch in



Toronto would greatly assist the Montreal branch in making the association meeting a success. In order to take part in the Montreal meeting it will be necessary to become a member of the British Medical Association. The existence of a branch organization here will greatly facilitate the election of members. Without the branch organization, membership could only be obtained by making application direct to the general secretary, London, England, which would require, at least, a fortnight's time.

The president and council of the Toronto branch would like to secure the co-operation of those who are already members of the British Medical Association in their endeavors to extend the membership in Toronto and the vicinity, and to assure a good attendance at next year's meeting in Montreal. Gentlemen who are already members of the British Medical Association, and who are desirous of being enrolled in the Toronto branch, are requested to send in their names to the branch secretary. Applications for membership in the association will be received by the secretary, and forms furnished. These forms are to be returned to the branch secretary, when the candidates' election will be proceeded with. The annual fee is one guinea, and the member receives the *British Medical Journal* weekly.

The officers of the Toronto branch are: President, I. H. Cameron, M.B., Toronto; vice-president, W. J. Wilson, M.D., Toronto; treasurer, H. T. Machell, M.D., Toronto; secretary, W. B. Thistle, M.D., 160 McCaul street, Toronto. Council: J. E. Graham, M.D.; Charles Sheard, M.D.; Alex. MacPhedran, M.B.; Allen Baines, M.D.; John Caven, M.D.

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#### THE MONTREAL MEETING OF THE BRITISH MEDICAL ASSOCIATION IN 1897.

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WE learn from the local secretaries for this meeting that the committee is still assiduously engaged in making the necessary arrangements. We are asked to emphasize the fact that those who intend to be present should make their arrangements for rooms at an early date, because Montreal, which generally has a large number of visitors at that season of the year, will be heavily taxed in her attempt to care for the extra influx which this meeting will ensure.

It has been determined that there shall be, at least, twelve sections, viz., Medicine, Surgery, Obstetric Medicine and Gynæcology, State Medicine, Pharmacology and Therapeutics, Pathology and Bacteriology, Anatomy and Physiology, Psychology, Diseases of Children, Ophthalmology, Laryngology and Otology, Orthopædics and Dermatology. These

will meet in the buildings of McGill University and the surrounding theological colleges.

In order to guard against the unsatisfactory crowding and confusion resulting from a small reception room, it has been determined to erect a temporary building of large size, about 100 by 50 feet, in the grounds of McGill, which will serve not only for the issuing of tickets and daily programmes, for post, telegram, and telephone offices, but also, during the meeting, will contain the secretaries' and enquiry offices. The general meetings and addresses will be held in the Windsor Hall, which is capable of seating 3,000, and is in every way adapted for this purpose. The museum (instruments, therapeutical preparations, etc.) will, in all probability, be housed in the Victoria Rink, close to the Windsor Hall, between it and McGill. It is hoped this museum will be one of the features of the meeting, and every endeavor will be used to make this attractive to the profession and to the public.

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#### BEATTY vs. CULLINGWORTH.

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THIS trial has created great interest among the profession of Great Britain. Dr. Cullingworth, the senior obstetric physician of St. Thomas' Hospital, operated on a hospital nurse, Miss Beatty, in 1892, for disease in the pelvis. The diagnosis was disease of the right ovary, with doubt as to condition of the left ovary. The patient was engaged to be married, and objected to the removal of both ovaries. Dr. Cullingworth expressed the opinion that the left ovary might probably be healthy, but stated that he was not certain. During a conversation after the doctor had given his opinion she said (*Times* report as published in the *British Medical Journal*) she could not bring her mind to have the operation as to the second ovary. He replied that he could give no guarantee that there was only one side diseased. He told her it was entirely a matter for her, and she must think the matter over and decide. He also said he could not be absolutely sure as to the condition on the left side until the operation was proceeding, and that he could not bind himself by any promise not to remove the second ovary. He said in giving his evidence in court he wished to be absolutely unfettered.

Miss Beatty at first decided that she would have no operation, but afterwards changed her mind, and sent word to that effect. Dr. Cullingworth showed a great deal of kindness and consideration towards her, put off his holiday for a week to perform the operation, and charged no fee. When the plaintiff came into the room for the operation, she said: "Dr. Cullingworth, if you find both ovaries diseased, you must remove neither."

To this he replied : " You really must leave that to me, nurse. I know your wishes ; you may be sure I shall not remove anything that I can help." She made no reply, got on to the operating table, and took the anæsthetic. Dr. Cullingworth considered that this apparent acceptance of the situation, in connection with former conversations, was equivalent to a tacit consent. He said in court that if she had then raised any objection to his statement he would not have proceeded with the operation.

Dr. Cullingworth found the right ovary seriously diseased, and removed it. He then proceeded to examine the left ovary, and found it also diseased. He then said to his assistant that it was a serious complication, and in view of the patient's expressed wish he would have to think for a moment what course to pursue. Eventually he decided to endeavor to remove the diseased portion of the ovary by dissection, unless it could be done by puncture. After making incision, he found the disease was of such a nature as to make it impossible to puncture it and leave it. He then attempted to remove the cyst, leaving a portion of the ovary, but finding that impossible he removed the ovary. Miss Beatty was angry when she was told what he had done, and entered suit for damages. After a time she withdrew the claim. Again, this year, she commenced proceedings, and the case was tried in November, and resulted in a verdict in favor of Dr. Cullingworth. The verdict was just and right ; but will be only a poor compensation to the plaintiff for the worry and expense necessarily associated with the trial. The moral and the lesson to be learned are too obvious to require comment.

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#### ANNUAL CONVOCATION EXERCISES OF THE TRAINING SCHOOL FOR NURSES, TORONTO GENERAL HOSPITAL.

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WE believe we can say, without fear of contradiction on the part of anyone who knows whereof he speaks, that the Training School for Nurses in the Toronto General Hospital is second to no school of the kind in the world. We are pleased to notice that this is becoming appreciated by the people of Toronto, as shown by the fact that increasing numbers of her citizens attend the annual convocation exercises from year to year ; and also by hospital authorities and others in districts outside of Toronto, as evidenced by the important positions of trust occupied by graduates in various parts of the continent.

A large and representative audience gathered in the amphitheatre of the hospital on Friday evening, November 30, to witness the distribution of certificates and badges to the graduating class for 1896. The chair was



occupied by Mr. Walter S. Lee, President of the Board. Prayer was offered by Rev. Dr. Milligan, after which Rev. Louis Jordan delivered a short address.

Miss Snively, the lady superintendent, who has done so much to place the school in its present proud position, then read the annual report, which contained the following items of interest. The course of training had been extended to three years. The object of this change was to improve the character of the nursing in the hospital, and also make the nurses more efficient, intelligent, and self-reliant ; and, as far as possible, develop in them executive and administrative abilities. There had been 590 applicants for admission during the year, of which twenty-eight were accepted and enrolled as pupils. There are now sixty-two nurses in the school, and the graduating class numbered twenty-one. A number of graduates of the school received appointments during the year in the Toronto General Hospital, and in other hospitals in Ontario, Quebec, and various parts of the United States.

After the presentation of the certificates and badges, the guests, numbering about 500, were invited to a reception in the nurses' home, where refreshments were distributed by twelve nurses, wearing badges of pink ribbon. The appearance of the nurses, dressed in their pretty blue and white uniforms, was very pleasing ; and the very tasty decorations in the amphitheatre and the nurses' home added much to the various charms of the evening. There appeared to be a general consensus of opinion among the guests that this was the most pleasant entertainment ever given in the Toronto General Hospital.

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#### SIXTIETH YEAR OF THE QUEEN'S REIGN.

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WE learn from the *British Medical Journal* that a committee has been chosen, with the Duke of Westminster as chairman, to take steps to celebrate the completion of the sixtieth year of Her Majesty's reign by raising a fund to increase the endowment in perpetuity of "Queen Victoria's Jubilee Institute for Nurses." This institute was founded in the Jubilee year by the Queen, who gave to it the sum of three hundred hundred and fifty thousand dollars. Its nurses have already done good work in various parts of the United Kingdom among the poorest classes. The *British Medical Journal* says : "To-day there are over six hundred working under the centres established in England, Scotland, Ireland, and Wales. It is, therefore, no new experiment which has to be tried. It is pointed out that the direct benefit to the suffering poor

of having skilled nursing in sickness in their own homes cannot be overstated, apart from the indirect, but equally certain, good resulting from the constant visits of educated and devoted women to houses where order and cleanliness are sometimes unknown, and where, from ignorance of the simplest sanitary precautions, illnesses are often prolonged, always made more serious, lives endangered, and suffering greatly increased."

The Queen received at Windsor Castle nearly four hundred of these nurses, December 2. The visiting nurses were conveyed by a special railway train to Windsor, and entertained at luncheon on the lawn tennis grounds adjoining the Castle. When Her Majesty, accompanied by Princess Christian, drove to the grounds, the nurses, clad in their regular nursing costumes, were drawn up in a double line forming three sides of a hollow square. All the nurses received the Queen with a low curtesy. After a number were formally presented, Her Majesty ordered her carriage to be driven into the centre of the square, and briefly addressed the company, saying: "I am very much pleased to see my nurses here to-day, and to hear of the good work that they are doing; and I am sure they will continue to do it." When she finished, the nurses sang one verse of the National Anthem, and again curtesied. By special desire of Her Majesty they then filed in pairs before the Queen. On their return to London the nurses were entertained at Grosvenor House by the Duke and Duchess of Westminster with a reception, at which Princess Louise was present.

## Correspondence.

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### "SO-CALLED OPTICIANS."

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To the Editor of THE CANADIAN PRACTITIONER :

DEAR SIR,—According to an item in the daily press a number of jewelers calling themselves opticians met together for the purpose of organizing a society, having for one of its objects the formation of some kind of a school of refraction. There has lately sprung into existence a class of men which has been called "Doctors of Refraction" by the diploma given them. This diploma is the veriest farce. The origin and support of this movement are the optical companies, thereby meaning those which make and sell spectacles. By a scheme such as that outlined in the newspaper report they hope further to boom their wares. These "Doctors of Refraction" are exceedingly ignorant, having but a mere pretence of training. They do a great deal of harm by persuading people to wear glasses, whose eyes are otherwise diseased. This has been frequently exemplified. Moreover, their knowledge of refraction is so slight that it is impossible for them rightly to prescribe glasses. The regular optician does not recognize these jewelers as opticians. The regular optician does not base his claims to that name upon the giving of glasses; for this he knows to be but a recent addition, and one in which he does the best he can, confessing that he understands very little of it. A contrast you will thus see to the blatant and ignorant "Doctor of Refraction." Many of the public are asking why these men are allowed to sail under false colors without any intervention on the part of the law.

G.H.B.

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### THE MOSCOW INTERNATIONAL MEDICAL CONGRESS.

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To the Editor of THE CANADIAN PRACTITIONER :

SIR,—*Apropos* of an editorial in this week's *Medical Record*, entitled "Politics and Medicine in Russia," I desire to ask for some space in your esteemed and most widely circulated journal in order to express my opinion upon the subject. My, at first, perhaps, somewhat startling opin-



ion and advice is that the members of the medical profession throughout the world should, collectively or individually, resolve to have nothing to do with that congress, to ignore it completely. This opinion is shared by quite a number of my colleagues, and the reasons upon which it is based are as follows: A country in which the popular and higher education is in the palm of the hand of Constantin Pobyednoszeff, a narrow-minded, marble-hearted bigot, as cruel as Torquemada, with the only difference that he does not burn his victims at the *auto-da-fé*—this being out of fashion now—but sends them instead to pine their young lives away in the Siberian mines and prisons; a country in which the students are watched and spied upon like penitentiary convicts; a country in which the most brilliant university professors are treated like lackeys, discharged and exiled at the caprice of the above-named autocrat; a country in which the possession or reading of the Declaration of Independence, or of the constitution of the United States, is considered a heinous crime, and is punished by from three to five years' solitary confinement in a prison, or subterranean dungeon (this is fact, not fancy); a country in which citizens of the highest ability and integrity are debarred from university education, from certain professions and positions, on account of professing a certain faith; a country which in the last quinquennium of the nineteenth century establishes a school of medicine for women, and inserts a clause rigidly excluding women of Jewish faith from entering its portals—such a country, I say, should not be honored by the holding of an international medical congress in one of its capitals. And in this opinion I do not stand alone. When in Berlin I spoke to many physicians upon the subject, and several of them who participated in previous congresses expressed their resolution to have nothing to do with the Moscow congress, neither as readers of papers nor as visitors. And if the entire medical profession throughout the world decided to do likewise, the rebuke would have a wholesome effect upon the pitiless northern despot.

The case of Erismann is not by any means unique. Many a Russian professor has been forced to resign or has been exiled, only to be received with open arms by the universities of Switzerland, France, and Germany.

WILLIAM J. ROBINSON, M.D.

The above letter is taken from the *Medical Record*, and is a very fair criticism. Dr. Erismann, the liberal-minded general secretary of the congress, was removed from his secretaryship and deprived of his professional chair for his liberal ideas of an international congress. It is more than probable that he is now on his way to Siberia.

## Book Reviews.

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THE PHYSICIAN'S VISITING LIST FOR 1897 (Lindsay and Blakiston). Forty-sixth year of its publication. Philadelphia: P. Blakiston, Son & Co.

This is one of the most neat and compact of the many visiting lists published. Among the contents we find a calendar, 1897-8; the metric or French decimal system of weights and measures (very clearly explained); dose table; directions for treating asphyxia and apnoea; comparison of thermometers; a new table for calculating the period of utero-gestation. Then follow leaves for visiting list, memoranda, addresses of patients, addresses of nurses, accounts asked for, memoranda of wants, engagements, records, cash accounts, etc. The arrangement is, in all respects, good and simple.

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FOOD IN HEALTH AND DISEASE. By I. Burney Yeo, M.D., F.R.C.P., Professor of Therapeutics in King's College, London, etc. New and revised edition. Lea Brothers & Co., Philadelphia and New York.

The first edition of this admirable work appeared in 1889, and was highly prized by a large number of physicians in Great Britain and North America. In the present edition we find many changes and additions which bring the book well "up to date." It contains many practical hints, based on extended observation and laboratory work. We know of no work on this subject that so thoroughly combines the practical and scientific aspects of the subject-matter. We have no hesitation in recommending the book as one that is likely to be exceedingly useful to all classes of medical practitioners. We think every physician should have it.

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A MANUAL OF ANATOMY. By Irving S. Haynes, Ph.B., M.D., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of the New York University, etc. With 134 half-tone illustrations and 42 diagrams. Philadelphia: W. B. Saunders, 1896.

This volume, which is the latest of the "New Aid" series of manuals, is, we think, well worthy of perusal, especially by students who are actually working in the dissecting room. It will also be useful for the practitioner as a book of reference. Considerable prominence has been given to surface anatomy, both in the illustrations and in the text. This is a very good feature of the manual, as it gives the student a good foundation for his hospital work when he comes to take up the subject of physical diagnosis. As this manual is intended as a dissector's guide, it purposely omits descriptions of bones and joints, for which the student will have to consult his Gray or Quain.

As a sample of the printer's work this volume holds its own with others of the series.

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A MANUAL OF OBSTETRICS. By W. A. Newman Dorland, A.M., M.D.  
Philadelphia : W. B. Saunders, 917 Walnut street.

Dr. Dorland's recent work upon obstetrics is a fair, complete, and up-to-date presentation of that science and art. While there is no wasted space in the book, abundant reference is made to various theories held and methods of treatment adopted at the present time. That which is of peculiar interest to the practitioner is the mention of the names of teachers and writers in connection with certain theories and practice, and many references are made to their more comprehensive publications.

Perhaps the chief charm of the book is the systematic arrangement of the subjects and the completeness of directions for treatment in so small a space. The scientific classification of puerperal sepsis will enable many to arrive at a more definite understanding of this all-important subject. Perhaps every obstetrician has his own theory regarding the etiology of eclampsia, and so we must forgive the author for having omitted ours. We congratulate him upon having presented the whole subject so comprehensively and interestingly. No safer or better guide could be put into the hands of students and practitioners.

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Books received :

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY.  
By George F. Butler, Ph.G., M.D., Professor of Materia Medica and of Clinical Medicine in the College of Physicians and Surgeons, Chicago ; Professor of Materia Medica and Therapeutics, Northwestern University, Woman's Medical School, etc. 8vo, 858 pages. Illustrated. Prices : Cloth, \$4 net ; sheep or half-morocco, \$5 net.



## Medical Items.

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DR. GEORGE MORE (Tor., '96) has commenced practice in Hawkesville.

DR. E. S. HICKS, of Deseronto, has been appointed an Associate Coroner for the County of Hastings.

DR. THOMAS H. MIDDLEBRO (Tor., '92), of Owen Sound, has been appointed jail surgeon for the county of Grey, in the place of Dr. Henry Manley, deceased.

DR. THOMAS MORE MADDEN, the well-known obstetrician and gynaecologist of Dublin, has received the degree of Master of Obstetrics (M.A.O.), *Honoris Causa*, from the Royal University of Ireland.

THE AMERICAN MEDICAL ASSOCIATION.—The next meeting of the American Medical Association, which is to be held in Philadelphia in June, 1897, will be the semi-centennial gathering of that society.

HE—I am really surprised at Dr. White. After being our family doctor for years, and treating me for all sorts of things, and to think of all the money we've paid him, too! She—What has he done? He—He wouldn't pass me for the life insurance company!

At the annual meeting of the Clinical Society of Maryland the following officers were elected to serve for the ensuing year: President, Dr. S. K. Merrick; vice-president, Dr. W. D. Booker; recording secretary, Dr. H. O. Reik; corresponding secretary, Dr. W. G. Townsend; treasurer, Dr. W. J. Todd; member finance committee, Dr. J. M. Hundley. Executive committee: Dr. J. W. Lord, chairman; Dr. W. B. Canfield, Dr. T. P. McCormick.

THE CHARLOTTE MEDICAL JOURNAL.—The Charlotte *Medical Journal* published in Charlotte, North Carolina, has for some time been recognized as one of the most progressive medical journals in the United States. Several changes have recently been made—especially as to increase of reading matter—which are likely to add to its popularity and usefulness. We desire to congratulate the editors, Drs. Register and Montgomery, on the success which has attended their efforts in producing a first-class medical journal.

NO FULL DRESS UNIFORM IN U.S. ARMY.—It has been decided by the military authorities of the U.S. Army, including Surgeon-General Sternberg, at whose suggestion the action was taken, that there shall be no full dress uniform for the members of the hospital corps. The pomp and pride and panoply of war, the nodding plumes of grand parades and glittering military

pageants, are not for them. Although they may be *in* these parades and pageants hereafter, they will not be *of* them. When they are there they are there not for show, but for business—in their fatigue suits, with their hand litters handy and their hospital corps pouches ready to furnish whatever is needful for the emergency.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about \$180, will be made on July 14, 1897, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1897. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper, and within the name and address of the author. It is a condition of competition that the successful essay, or a copy of it, shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1896 was not awarded.

DOCTORS AND LAWYERS.—In the speech of Mr. Justice Vaughan Williams, at the annual presentation of prizes to the students of the Charing Cross Hospital Medical School, he declared that there was a considerable affinity between the professions of law and medicine. Both required the same qualities, both were the recipients of confidences from their clients, and he would add that the clients rarely found their confidences misplaced. He, as a lawyer, often came into contact with doctors in the law courts, where the most important issues were often determined solely on the evidence of medical experts, who were, for the most part, safe guides in the administration of justice. One point, however, in which the professions differed was that the medical profession was essentially progressive, while the legal profession was, in a sense, stationary. If the doctors of the last century came to life again, they would know comparatively nothing of contemporary medical science, but if the judges of former times were installed in the law courts to-morrow they would try the cases quite as well, if not better, than the judges of to-day.—*British Medical Journal*.

HERBERT ALEXANDER BRUCE, M.B. TOR., F.R.C.S. ENG.—We have to announce, with much pleasure, that Dr. H. A. Bruce has passed the final examination for the Fellowship of the Royal College of Surgeons of England. Dr. Bruce's career in medicine up to the present time has shown remarkable success. He was a student of the Medical Faculty of the University of Toronto from 1888 to 1892, and at his final examination was awarded the gold medal, the highest prize in the gift of the Faculty. He was appointed one of the resident assistants in the Toronto General Hospital for the year 1892-3; and his conduct in that capacity was highly satisfactory to all connected with that institution. In 1893 he was appointed surgeon to one of the C.P.R. steamships, on

which he remained for nearly two years. Early in 1895 he went to England, where he engaged in post-graduate work. The simple announcement that he is now F.R.C.S. Eng. shows that he has worked to some purpose. To those who respected Dr. Bruce for his ability, and loved him for his rare goodness and kindness of heart, the news is very welcome. THE CANADIAN PRACTITIONER offers very cordial congratulations.

DR. MORE MADDEN.—Dr. More Madden, upon whom the honorary degree of M.A.O. was conferred recently, for many years has been well known as an obstetric and gynæcological practitioner, teacher, and writer, and has received many honors in these branches of medical science. Thus he has filled the positions of President of the Obstetric Section of the British Medical Association and of the Irish Academy of Medicine, and was Hon. President of the International Congress of Obstetricians at Brussels. From the Medical College of Galveston he got the degree of M.D. *Honoris Causa*. He has held a number of offices in his special branch, being Obstetric Physician and Gynæcologist to the Mater Misericordiæ Hospital, Consulting Physician to the Children's Hospital, and Consultant and ex-Master of the National Lying-in Hospital. Amongst his writings are: "Clinical Gynæcology: A Handbook of Diseases of Women"; "The Health Resorts of Europe and Africa." He has also contributed very extensively to periodical medical literature and to works such as "Quain's Dictionary of Medicine," and has been editor of "The Dublin Practice of Midwifery," "Memoirs of the late Dr. R. R. Madden," "A Handbook of Obstetrics and Gynæcological Nursing," etc.

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LIST of chairmen and secretaries of the various sub-committees for the Montreal meeting of the British Medical Association, 1897:

*Reception*—Chairman, Sir Wm. Hingston, M.D.; Secretary, Dr. B. F. Ruttan.

*Finance*—Chairman, Dr. E. P. Lachapelle; Secretary, Dr. F. G. Finley; Treasurer of the branch, Dr. J. Alex. Hutchison.

*Excursion*—Chairman, Dr. G. E. Armstrong; Secretary, Dr. H. S. Birkett.

*General Purposes*—Chairman, Dr. A. Proudfoot; Secretary, Dr. R. P. Devlin.

*Museum*—Chairman, Dr. J. Perrigo; Secretary, Dr. J. W. Stirling.

*Printing and Publishing*—Chairman, Dr. J. G. Adami; Secretary, Dr. J. A. Macphail.

*Dinner and Luncheon*—Chairman, Dr. James Bell; Secretary, Dr. F. A. L. Lockhart.

*Soiree*—Chairman, Dr. F. J. Shepherd; Secretary, Dr. G. G. Campbell.

*Local Entertainment*—Chairman, Dr. C. P. Girdwood; Secretary, Dr. K. Cameron.



A RATHER amusing story is told by a New York doctor concerning one of his patients, who was a pushing young barrister. This legal luminary was often accustomed to spend an evening with a client of his, a wealthy old lady, with whom he tried to keep in good favor. These evening seances always terminated with refreshments. On this particular evening our legal friend was not feeling in very good trim for much of a repast, but *volens volens* he must take something. The consequence was that as he was wending his way homewards, he began to be afraid that on the morrow he would be incapacitated, and unable to plead in an important suit on hand. He therefore thought he would consult his physician, which he accordingly did, and under his orders he took a very fair dose of zinci sulph. with the desired effect. Feeling rather depressed after it, he took a good horn of brandy, and next day was at work all right. When sending his cheque to his physician for his services, he accompanied it with the following literary production :

“ No more cake, and no more candy,  
No more zinc, and no more brandy.”

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#### OBITUARY.

SIR BENJAMIN WARD RICHARDSON, BART., M.D., F.R.S.—This distinguished physician died at his home in London, November 21, 1896, aged 68 years. He was well known as an author, especially on subjects connected with hygiene.

THOMAS HERRING BURCHARD, M.D.—Dr. Burchard, of New York, died suddenly from cardiac disease, November 15, 1896, aged 48 years. He was well known by many Toronto physicians, and was married to a lady who lived in Toronto for some years. He was a good physician, a good teacher, a good writer, and, socially, a genial, lovable man.

RUSSELL HERBERT GOWLAND, M.B. TOR.—Dr. R. H. Gowland, a bright boy from Hamilton, commenced his studies in medicine in 1888. He was a student in the University of Toronto, and received the degree of M.B. from that institution in 1892. He commenced practice in Hamilton, but his health failed shortly after he went into harness. He suffered from disease of the kidneys, and went to Johns Hopkins Hospital, Baltimore, early in December. An operation was performed on him December 10, but he died on the following day. This sad termination of what promised to be a bright career is greatly deplored by all his friends.

ROWLAND JOHN HASTINGS, M.B.—Dr. R. J. Hastings, of Toronto, was one of our most promising young physicians. He took his medical course in the University, getting the degree of M.B. in 1894. Soon after completing his course he located in Toronto, 535 King street east, and his prospects appeared very bright. He was suddenly seized with illness on the last day of November, and died in four days. He first developed high temperature, together with a scarlatiniform eruption. Great prostration followed, and he sank continuously and rapidly. Although the scarlet rash was at first misleading, it is

probable that the cause of his condition was acute septicæmia. He died December 4, aged 34, and had been in practice exactly two years. He was a nephew of Drs. C. J. and A. O. Hastings, of Toronto.

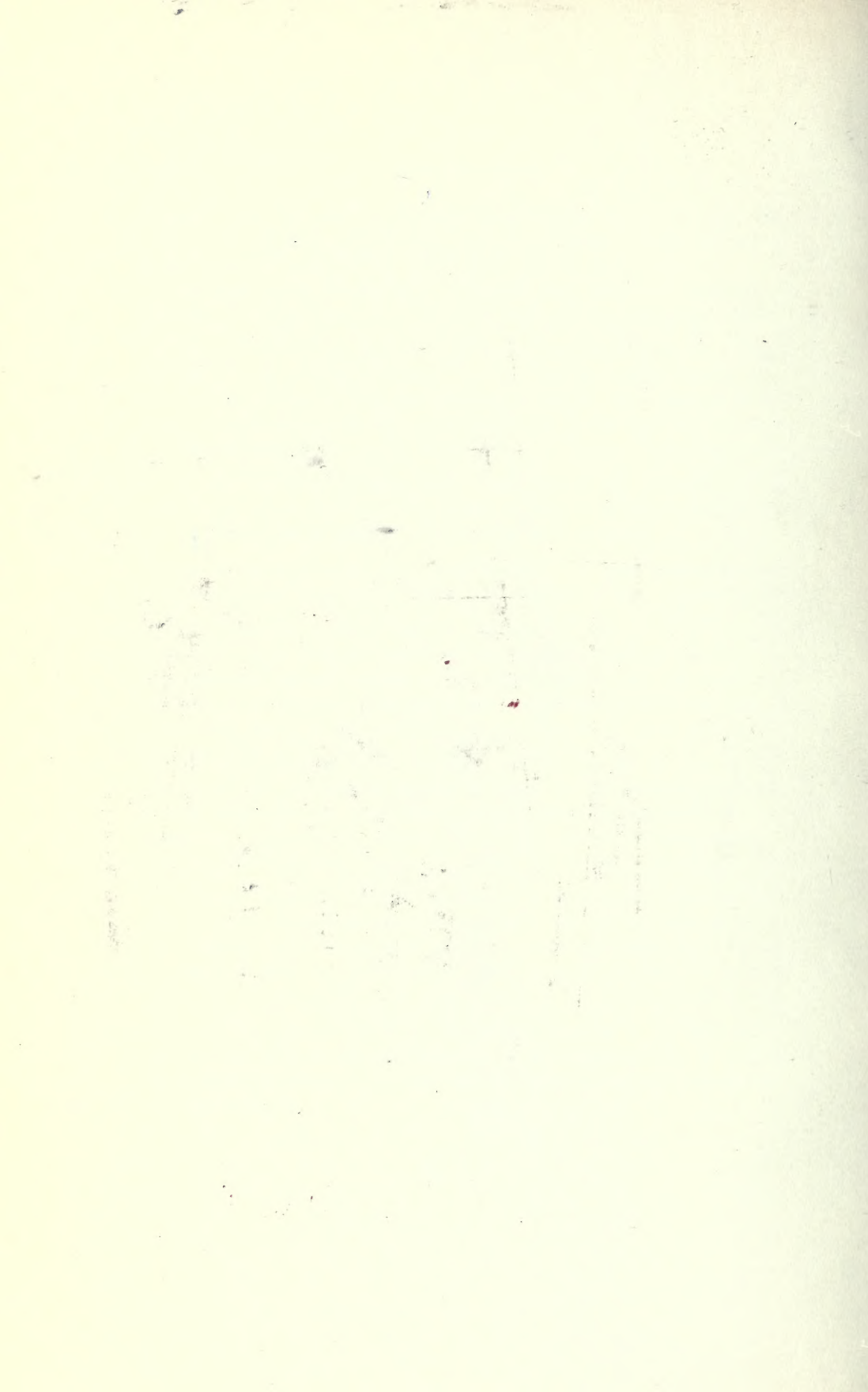
ROBERT JAMES WOOD, M.D., C.M., L.K. & Q. COLL. PHYS. IRELAND.—Dr. R. J. Wood, of Vancouver, died after a short illness of pneumonia, December 1, 1896, aged 32. He received his medical education in the Toronto School of Medicine, and received the degree of M.D. from Victoria University in 1886. In the same year he went to Great Britain and became a licentiate of the King's and Queen's College of Physicians, Ireland. He commenced practice in Streetsville in 1887, and remained there until 1894, when he went to the Pacific coast and located in Vancouver, B.C. A widow and one child survive. His sad death caused a great shock to his many friends, who were all fond of "Bob" Wood. Although he had been in British Columbia only two years he had already acquired a large lucrative practice, when death suddenly seized him in the midst of his well-earned and well-deserved prosperity.

DR. GEORGE HARLEY.—Dr. George Harley, F.R.S., aged sixty-seven years, died suddenly on Tuesday from rupture of a coronary artery. His remains are to be cremated this afternoon. I knew him for many years, a genial and cheerful companion whose intense interest in the scientific aspect of medicine never abated. You will remember his researches on the urine and on the liver, and important as these were he made many others of equal value. He was a very highly trained scientist. After graduation at Edinburgh he spent two years in Paris under Magendie and Claude Bernard. Then he took two years in Germany, working under Scherer, Kolliker, Virchow, and others. On returning he was appointed to the chair of histology and practical physiology at University College and physician to the hospital. Soon for his elaborate researches, among which those on the chemistry of respiration had great influence, he obtained the scientific blue ribbon, F.R.S. He naturally became a fellow of both the Edinburgh and London Colleges of Physicians. He had to fight against ill-health for a long time, and he did it with a courage deserving of admiration and sympathy. I remember his attack of glaucoma, from which, on account of the state of the other eye, extirpation was advised; but he retired to a darkened room for several months to try what rest would do and recovered sight in both eyes. He recorded a number of observations he made on his vision as he recovered. He was always ready to experiment on himself, and on more than one occasion he ran considerable risk from doing so. A careful, exact experimenter and fluent lecturer, his pupils had the greatest respect for his work, and many will mourn the loss of an ardent devotee of scientific medicine and a cheerful, skilful, and learned physician.—*London Correspondent of Medical Record.*

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